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NOTICE TO AUTHORS

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APPLICATIONS FOR MEMBERSHIP SHOULD BE ADDRESSED TO THE EXECUTIVE SECRETARY

George Adams Kopp, *President*

The American Speech and Hearing Association

George Adams Kopp is Professor of Speech and Director of the Division of Speech Science, Correction and Audiology, Wayne State University, Detroit. He was granted his B.A. degree, in 1926, by Monmouth College; his M.S., in 1930, and Ph.D., in 1933, by the University of Wisconsin.

Dr. Kopp's distinguished career includes U. S. Marine Corps service, teaching, research, consultation, offices in professional organizations and administration. He has been associated with Jamestown College, 1926-28; University of Wisconsin, 1928-1936; Wayne University, 1936-1939; Columbia University, 1939-1946; Bell Telephone Laboratories, 1943-1946; University of Michigan, 1946-1948; Wayne State University since 1948. He is married to Harriet G. Kopp, who is a member of the *Journal* staff and Principal of the Day School for the Deaf, Detroit.

For his ten years of devoted service as Secretary-Treasurer of ASHA, Dr. Kopp was awarded the Honors of the Association in 1957.

Memo From The National Office

Election of Officers

The results of the annual election of Officers, Councilors and Committee Chairmen were:

President Elect	Stanley Ainsworth
Vice President Elect	Jack L. Bangs
Councilor-at-Large	James Jerger
Councilor-at-Large	Dean E. Williams
Chairman Elect	
Committee on Ethical Practice	Hayes A. Newby
Committee on Clinical Certification	Ruth B. Irwin

Five proposed By-Law changes were voted on and the results were:

By-Law Change 1. Concerning responsibilities of the President—Approved

By-Law Change 2. Concerning the Committee on Nominations—Approved

By-Law Change 3. Concerning Committees on Clinical Standards in Speech and in Hearing—Approved

By-Law Change 4. Concerning the Committee on Publications—Approved

By-Law Change 5. Concerning the publications of the Association—Approved

Conventions

The 1958 Convention held in New York was the most successful in the Association's history, with an attendance of 2522. The 1959 Convention will be in Cleveland, Ohio, at the Hotel Statler, November 11-14. Plan to attend.

—Kenneth O. Johnson
Executive Secretary, ASHA

The American Speech and Hearing Association

THIRTY-FIFTH ANNUAL CONVENTION

November 11-14, 1959, Hotel Statler,
Cleveland, Ohio

FORMAL CALL FOR PAPERS

An invitation is issued to all members of the Association to submit abstracts of papers which they wish to be considered for presentation on the program at the Annual Convention in 1959. Non-members are also invited to submit abstracts. General program ideas and suggestions are welcomed by the Program Committee. *All communications*, including abstracts, should be sent to Miriam D. Pauls, Hearing and Speech Center, The Johns Hopkins Hospital, Baltimore 5, Maryland.

The deadline for submission of abstracts is *April 15*, but members are urged to forward their proposals as far in advance of that date as possible. General program suggestions should be made immediately if they are to be of help to the Committee.

Abstracts must include (1) the full title of the proposed paper, (2) the name of the contributor (or contributors) and his (their) advanced degrees and professional affiliation, (3) if the work has been done under direction as a student, a statement to that effect, (4) the time required for presentation, (5) details of equipment needed, and (6) a concise summary of the contents suitable for publication in the Abstracts of the 1959 Convention Program.

In general, the abstract should succinctly summarize the paper in 200 to 300 words. It is hoped to publish the abstracts of the entire convention prior to the meeting. This requires prompt, thoughtful cooperation of the participants.

Submission of an abstract implies that a contributor accepts the following responsibilities: (1) He must be present in person at the scheduled time. If unforeseen circumstances prevent his appearance, he must make suitable arrangements with his chairman as far in advance as possible. (2) He must keep strictly within the time limits assigned to him by his chairman.

The Executive Council has ruled that each individual be limited to two appearances on the program to insure a wider participation of the membership. This ruling includes the presentation, or co-authoring of a paper, participating on a panel, and the like. It does not, however, limit an individual from serving as a chairman for a particular session.

It is urged that participation not be confined to experimental studies. Theoretical and practical discussion of any phase of the communicative process is welcomed. It is hoped that

a large number of abstracts and program ideas will be submitted; careful consideration will be given to all of them.

Individuals responsible for such functions as receptions, alumni luncheons, open houses, *etc.*, are invited to submit the essential information to the Program Chairman for inclusion in the Convention Program.

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Current Practices And Trends In Speech Correction Certification

Elizabeth W. Reeves

Recognition of the value of employing teachers with specialized training to aid the speech handicapped school child has led states and territories of the United States to set standards for certification of speech therapists, to revise current standards or to contemplate the establishment of such standards. A study of existing speech certification requirements in public school systems of the United States should (1) indicate current practices in the field of speech correction certification, (2) show trends in certification requirements for speech therapists and (3) point up needs in the training of speech therapists for public school employment. It is the purpose of this paper to reveal the findings of such a study and, in so doing, to set forth general guides for the certification and training of public school speech therapists in the United States.

Procedure

Information for this study was secured by writing to superintendents of public education and/or persons in charge of special education or special speech services in the 48 states, the District of Columbia and Hawaii. All of the 50 persons queried responded. Included as an additional standard of certification and for comparative purposes are the requirements for the Basic Certificate in speech granted by ASHA. Earlier studies by Spradling (5) in 1949, Irwin (2) in 1953, and the U. S. Office of Education (4) in 1954 were used in determining how far certification standards have progressed.

In analyzing data pertaining to speech correction certification in the United States, two major limitations were imposed: (1) Where states issue joint certification in speech and hearing therapy, the certification requirements for speech therapists only are listed herein, if such requirements can be separated readily from the hearing requirements. (2) Where states grant provisional or professional certification, the certificate for which an entering speech therapist with a bachelor's degree might seek to qualify is chosen herein as the representative certificate.

General Requirements

Of the 50 states and territories, 41 require the speech therapist to qualify for a special certificate in speech correction. In 12 of these states speech therapy is given joint certification with hearing therapy and the title

Elizabeth Walker Reeves (Ed.D., Columbia University, 1956) is Instructor in Speech and Dramatics, District of Columbia Teachers College.

TABLE 1. Courses required or established as electives to satisfy standards for the certification of speech therapists in ASHA, the 48 states, the District of Columbia and Hawaii.

Standard	*Total Hours* Required*	*Minimum Hours in Speech Courses Required (R) or Elective (E)*								*Minimum Hours in Hearing*				*Minimum Hours in Other Areas*				
		Total	*Anatomy of ear and vocal mechanism*	*Speech correction*	*Speech pathology*	*Phonetics*	*Speech and voice science*	*Psychology of speech*	*Hours in clinical practicum*	*Total*	*General audiology*	*Hearing problems and testing*	*Speech reading*	*Total*	*Child psychology or growth and development*	*Exceptional or handicapped child*	*Mental hygiene*	*Education courses*
ASHA	30	18	E	R	R	E	E	E	200c	3		R	E	9	R		R	
Alabama	None																	
Arizona	Undergraduate major in speech pathology and graduate hours (15) in speech correction								8s									
Arkansas	24	18	6R			R	R		200c (6s)		R							
California	24			R		R			4s			R	R			R		
Colorado	30	18⅔	E	E	R	R	E	E	200c	3⅓		R	E	8	E	E	E	E
Connecticut	24	12		R	R	R	R	R	180c (6s)	9		R	R	30	E	E	E	E
Delaware	48	18	E	R	R	R	R	R	100c		R			30		R		18
District of Columbia	54	30	Undergraduate speech major											24	R			21
Florida	50	30	Special speech field						6s					14				14
Georgia	77q	27	ASHA requirements							5				45	R		R	30
Hawaii			ASHA requirements															
Idaho	None																	
Illinois	45	23	E	E	E	E	E		200c	6		R	E	16	R	R	R	6
Indiana	30		R		R	R	E		5–6s			R				R		
Iowa	25	14			8R	R	R		200c					11	E		E	8
Kansas	42	24	E	R	R		R		200c	6		R	R	12		R		R
Kentucky	27	12	E	E	E	E			R					15	R	R	R	R
Louisiana	39	18	E	R	R	E	E	E	200c (12s)	6		R	E	15	R	R	R	E
Maine			ASHA requirements											6	E	E	E	E

Maryland	39	21	E	E	E	E	E	E	240c (8s)		R	E	E	18	E	E	E	R
Massachusetts	30	14	R	R	R	R			R	4		R	R	12	E	E	E	E
Michigan	24	12	R	R	R	R			4s		E		E	8		R	R	
Minnesota	30	9		R	6R				9s	9		6R	R	3			E	
			(Electives unspecified: 3)															
Mississippi	33	6			R				6s					21		R		18
Missouri		10	R	R		R			100c		R				R	E	E	R
Montana			ASHA requirements															
Nebraska			ASHA requirements															
Nevada	None																	
New Hampshire	None																	
New Jersey		12	R	R	R	R			60c									
New Mexico	None																	
New York	56	36	R	E	R	R	E	E	R			R	R	20				20
North Carolina	30	12	R	R	R	R			45c		R			18				18
North Dakota	30q	18	R	R	R	R			200c		R			10	R		R	R
Ohio	56	15		R	R	R	R		175 (3s)	6		R	R	32	R	R		17
Oklahoma	20			R	R	E	E		R			R	R			R		
Oregon	36q (18 grad.)			R	6R	E	E		6q		R				R (grad.)	R		E
Pennsylvania	24	18		R	E	E	E	R	R			R		6		R	E	E
Rhode Island	64	40	technical and related speech hours											24				24
South Carolina			ASHA requirements															
South Dakota	None																	
Tennessee	50q	27	E	R	E	E	E	E	200c	6		E	E	27	9R	R		15
Texas	42	24	Speech correction						200c					18				18
Utah	28q			R	R	R		R	R		R					R		
Vermont	None																	
Virginia	42	18	E	R	R	E	E	E	200c (6s)			E	E	18	R (complete in 4 years)	E	E	R
Washington	None																	
West Virginia	31	18	R	6R	E	R		E	200c	3	R			6	E		E	
Wisconsin	45	21	E	R		R		E	R		R	E	E	24	R	6R		18
Wyoming	None																	

* Semester hours except for those marked q (quarter) or c (clock).

of the certificate so indicates.[1]

In order to secure the special speech therapy certificate in half of the 48 states, the speech therapist must hold a regular teaching credential. With the exception of North Dakota, which requires the speech therapist to possess only a teaching certificate and 30 quarter hours of specialization, all standards of speech correction certification require the therapist to have pursued the equivalent of four years of study in a liberal arts college or teacher education institution leading to a bachelor's degree or diploma. Arizona demands also that the speech therapist hold a master's degree or 30 graduate semester hours in speech correction, and Oregon requires 18 of its total 36 hours to be on the graduate level.

Of the nine states which have set no special certification requirements for speech therapists, six (Alabama, Idaho, Nevada, New Hampshire, South Dakota and Wyoming) employ two or three speech therapists who, it can be assumed, either must meet requirements for the regular teaching certificate or serve on a provisional basis. The three remaining states (New Mexico, Vermont and Washington) show no speech certification requirements and no specially prepared speech therapists.[2] In general, therefore, in the majority of states where speech therapists are employed, the therapist must be prepared in the professional field of teaching as well as the special field of speech correction.

Special Requirements

Specific areas of study required for certification of speech therapists by the various states may be classified into the categories of speech correction, clinical practicum, hearing, and other related areas. The general guide for classification is that advanced by ASHA for clinical certification requirements. The standards outlined in Table 1, therefore, adhere closely to the basic and specialized courses in speech, audiology and other areas as listed in the published certification standards of ASHA (*1*).

Four variations from the ASHA listing should be noted: (1) Among the basic areas semantics is omitted and no elective study in special speech problems is included. (2) In the area listed in this study as 'Hearing,' comparable to the ASHA 'Audiology,' three phases are emphasized: hearing problems and the testing of hearing, speech reading and a general course in audiology. (3) A third section pertaining to the education of the exceptional or handicapped child is added to the ASHA category of 'Other Areas.' (4) The fourth category in this study is entitled 'Professional Preparation' in which professional education course work, including practice teaching, is discussed with notations regarding the place of professional experience in state certification. However, in the table the hours required in education are in the general class of 'Other Areas,' since such hours cannot readily be separated from those of other courses

[1]California, Connecticut, Delaware, Indiana, Kansas, Louisiana, Massachusetts, New York, Ohio, Tennessee, Utah, West Virginia.

[2]However, all of these states evidence an interest in the topic of certification for speech correctionists; for example: 'Several teachers with a minor in speech are doing considerable work in this field, so it may be necessary to reconsider this topic in the not too distant future.' From Nelson H. Baker, Director of Teacher Education and Certification, Vermont.

in this category.

Comparison with ASHA Standards. A reading of Table 1 shows six states have adopted the basic certification requirements of ASHA as their own requirements in speech therapy; and, except for differences in the total number of hours required, three additional states have the same basic certification requirements as ASHA (Colorado, Louisiana and Tennessee). Thus, almost a fourth of the states and territories certifying speech correctionists actually follow ASHA policy. It can be noted further that the speech and hearing requirements of eight other states show definite indication of ASHA influence regarding certification requirements. Differences between what these eight states require and what ASHA requires are slight; for example, Delaware asks less clinical practice; Maryland wants more clinical practice; Virginia allows its hearing studies to be elective rather than required in any part; Illinois omits study in the psychology of speech and allows its speech studies to be elective; Connecticut omits specified study in the anatomy of the ear and vocal mechanism and makes other studies required. In addition, New York requires several speech arts courses as well as speech science but points out that its new speech therapy certification requirements are 'more in line with the American Speech and Hearing Association's requirements';[2] West Virginia omits course work in speech and voice science but insists that an ASHA advanced certificate holder train its public school speech therapists. North Dakota anticipates that by 1958 its minimum standards for speech therapists will be identical with those of ASHA. The combined total of these eight states reflecting influence of ASHA clinical certification requirements and the 10 states showing similar or identical requirements indicates that more than a third follow a general pattern of certification like that of ASHA.

Course Content in Speech. With the exception of four areas which require a total number of hours in speech without specifying individual courses and of six states adopting ASHA standards, the other 31 states list certain speech studies required or elective to meet certification requirements. Courses which appear an infrequent number of times among the studies are semantics, speech fundamentals, personal development through speech, experimental phonetics, speech development, oral interpretation, dramatics, public speaking and discussion. The first two courses are listed four times and the others no more than twice. Some states list specialized studies in speech correction, such as cleft palate, stuttering, aphasia, voice disorders and cerebral palsy. The most frequent listings of speech studies required or certified as electives are found in the remaining studies suggested by ASHA for its basic and specialized areas: anatomy and physiology of the ear and vocal mechanism, speech correction, speech pathology, phonetics, speech and voice science, and psychology of speech.

Of the 31 states listing specific speech studies, 28 regard 'speech correction' as the most desirable study for prospective speech therapists; it is required in 23 of the 28 states and by ASHA for certification. The other study required by ASHA—'speech pathology'—is listed by 26 states and required in 19. However, the study of phonetics receives a greater fre-

[2]John E. Lent, Associate in Education of the Speech Handicapped. From a letter of May 11, 1957. In files of writer.

quency in listing (27) among the states, though not as a requirement (17). Study in the anatomy of the ear and vocal mechanism to fulfill certification requirements is expected by 20 states, but less than half of these states indicate that the course is a required study. The proportion of course work required lessens as the frequency of courses listed lessens, for slightly more than a third of the 16 states listing speech and voice science require such study and only a third of 12 states require study in the least frequently listed course—'psychology of speech.'

Clinical Practicum. The importance of clinical practicum has not been overlooked by the states in setting standards for certification. In some instances, the state does not specify the number of clock hours needed but requires clinical practice in terms of semester or quarter hours or a certain number of courses. Aside from the states adopting ASHA standards of clinicum practicum, 33 of the 35 remaining standards require that the speech therapist show evidence of having taught speech defective children in a supervised clinical situation, and 11 of these states require 200 clock hours in practice. In some states the specified clock hours are credited as a certain number of semester hours; for example, Arkansas credits 200 clock hours as 6 semester hours and Louisiana credits 200 clock hours as 12 semester hours. Certain states allow the speech therapist to apply clock hours in audiology toward the total number of clinical hours needed, as Ohio, for example, where 25 of the 200 clock hours must be in 'lip reading.'

Course Content in Hearing. All of the states which allow application of audiology hours to the total clinic hours needed are among those 12 states which issue joint certification in speech and hearing. Thirty-two of the 41 states granting speech correction certification suggest that the therapist have at least one course in hearing. Sometimes the one course is not named and sometimes it is described as a general course in the re-education of the acoustically handicapped. Eight such listings exist. Of the two studies in audiology suggested by ASHA, hearing problems and testing receives 23 listings and speech reading 21. Twenty states list both courses as desirable, but the former is required study in more states (15) than is the latter which is required in only eight.

Other Areas. ASHA considers two additional courses as needs of the speech therapist: child psychology (or child growth and development) and mental hygiene (or psychology of adjustment). In the same general field, cropping up among state certification requirements, is study in the problems of the exceptional or handicapped child. In fact, study of the special child is listed by 22 states, whereas study in child psychology or growth and development is listed by 18 states and mental hygiene by only 16. Also in proportion, more states require study in the exceptional child than require study in child psychology or mental hygiene.

Other Professional Requirements

Education Courses. The greatest difference between ASHA basic certification for speech therapists and state certification lies in the specification for study in education. ASHA requires that a speech therapist have a bachelor's degree which, if from a teacher training institution, might well carry several education courses. On the other hand, over half of the standards studied (27) want speech ther-

apists to have courses in educational principles, methods, history, philosophy, *etc.*

In Table 1 the education hours are listed in the column entitled 'Education Courses' and are included in the total hours of 'Related Areas.' Some states list studies in child psychology, child growth and development, the exceptional child and mental hygiene as courses in education; others list these studies in the related areas or, in a few cases, with studies in speech. Where possible, credit hours for such studies are separated from the education total but included in the total for the entire section. More courses in education are required of speech therapists by Connecticut, the District of Columbia, Georgia, New York and Rhode Island than by any other state.

Teaching Experience. Ten states show a predisposition toward speech therapists' presenting evidence of regular classroom teaching with children not in need of speech correction or evidence of teaching experience with children in need of speech correction, but in the school situation as opposed to the clinic situation. The extent of the call for such teaching ranges from a simple indication by Kansas and Missouri that practice teaching with speech defective children in a school situation is desirable to the definite statement by Colorado and Wisconsin that teaching experience with 'normal' or non-defective children is required.

This practice teaching or regular teaching experience may be in lieu of, in addition to, or combined with clinical hours of training with speech defective children. The District of Columbia and Rhode Island ask the speech therapist to have practice teaching experience with non-defective children in the regular classroom, and Utah seeks supervised teaching of children with speech and hearing handicaps. However, the District of Columbia and Utah will waive their practice teaching requirements for two or more years of successful teaching experience and Rhode Island waives the requirement for three or more years of successful teaching experience. Illinois and New York request practice teaching in the public schools in addition to specialized speech correction practice in college or other clinics, Illinois specifying that at least 100 of 200 supervised speech correction hours be done in a school situation and New York specifying that additional teaching be in the areas of the language arts or speech improvement in a school situation. Georgia permits its required practice teaching in the public schools to be either one or a combination of both speech correction and regular teaching in elementary education.

Perhaps the position taken in those standards of certification which suggests that credentials of the speech therapist show teaching experience in the regular public school situation may best be explained and defended by a statement from the certification requirements of the state of Utah for the Provisional Certificate for Public School Speech and Hearing Correctionists:

> Since speech correction is not a regular classroom teaching assignment, the directed teaching should be in the second teaching field and designed to give the speech correctionist experience working with students who have speech difficulties in a subject learning situation.

The thesis seems to be that the speech therapist who seeks employment in the public schools must have a background of speech training that is not completely in the purist climate of the clinic but is partly in the practical atmosphere of the public school.

Trends in Certification

Adoption of ASHA Standards. The standards set by ASHA for certification of speech therapists undoubtedly have influenced those persons establishing speech correction certification standards throughout the United States. Whereas in 1953 only 29 states had a certification plan, according to Irwin (2), today 41 have set speech certification standards. The state of Nebraska was the only state adopting ASHA certification standards in 1953, but a total of nine states today have the same basic certification requirements as ASHA and eight other states decidedly indicate ASHA influence in their certification plans. Within less than five years the power of the professional organization of speech therapists in aiding in the determination of state certification standards has greatly grown. It is possible to predict that within the next five years the nine states currently without speech correction certification standards will have been led by their present interest in the field to adopt such standards, guided in their efforts by the ASHA requirements for basic certification.

Expectation of Hearing Qualification. Because in many communities, especially in the smaller cities, the itinerant speech teachers must be trained to work with children whose speech handicap is caused by impaired hearing, some directors of speech programs seek speech therapists who can also qualify in hearing. A total of 32 states require the speech therapist to have studied in the field of hearing, even though in some instances such study is not well defined. Evidence of a trend to employ speech therapists with training in hearing is seen in Connecticut, where the director of the speech program expects the speech teacher to work in both areas of speech correction and impaired hearing, and in the District of Columbia, where the director of the speech program expects the elementary speech therapists to schedule children with hearing problems in the 1958-59 academic year.

Requirement of Professional Education. The majority of states insist that speech education not be separated from the total field of teacher education. In a large number of these states, speech correction services emanate from departments of special education, and 16 states show persons especially assigned to supervise such speech activities.[4] The place of special education philosophy in speech education is being highlighted by a sudden surge in the prevalence of required study of the exceptional or handicapped child.

In addition to the trend toward the inclusion of course study of the special child, commensurate with a growth in the general field of special education, public school certification officials are requiring of the speech therapists certain designated courses in teacher education. Perhaps such requirement is indicative of an opinion that public school speech therapists should know something of the principles, procedures and philosophy of educating the children whom they must serve. Consequently, colleges must be realistic in their approach to the preparation of speech therapists by providing training for the therapist going into public school practice as well as for the therapist going into private or clinic service.

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[4]Arkansas, California, Connecticut, Delaware, Illinois, Iowa, Kentucky, Nebraska, New York, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Virginia, Wisconsin (3).

Summary

Survey of the field of speech correction certification in public school systems of the United States points to the following factors as practices and trends: (1) more states are establishing speech correction standards for certification, (2) more administrators are accepting ASHA standards as criteria for certification, (3) more public school systems are granting a joint speech and hearing certificate, (4) standards are becoming more uniform in special and general courses required, (5) more educators are recognizing the need for speech therapists to understand the general problems of the special child and (6) more speech therapists are being prepared in the over-all field of education. These practices and trends doubtlessly have evolved from practical needs in the field. Consequently, administrators in colleges and public schools can profit from awareness of such needs in order to help those persons interested in speech therapy who are under their jurisdiction.

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Situational Speech Therapy For Retarded Cerebral Palsied Children

William H. Plotkin

For the past 25 years, much attention has been given to that group of handicapping disabilities described by the general term of cerebral palsy. Professional teams of medical, therapeutic and educational specialists have devised programs which attempt to reduce the handicapping aspects of cerebral palsy. The primary aim of such a program is to cope with problems of general health, abnormal muscular conditions and other related physical difficulties. If the intelligence of the cerebral palsied child is within normal limits, his education is usually taken care of by the local board of education in special schools or classes for the handicapped child. These schools use appropriate methods of education, give such necessary training as speech and physical therapy, often provide transportation and have additional non-teaching staff to help the child with his personal needs.

The Retarded Cerebral Palsied Child

A significant percentage of cerebral palsied children are retarded and fall into the uneducable or trainable category. Although various studies differ in their specific figures and classifications, a review of the literature indicates that approximately 25 to 30 per cent (*1*) of the cerebral palsied may be classified as trainable. These children are sufficiently retarded to be excluded from special public school programs, and yet can be taught many self-help skills in non-academic training schools or centers. Centers of this kind have been appearing with greater frequency within the past eight years. They have attempted to work with the problems of this little understood, and previously neglected, group of children.

The available data on the speech of cerebral palsied children show that about 65 per cent (*2, 4*) have speech defects. Although no statistics are available concerning the speech of the trainable cerebral palsied child, one may assume that most of the children in this group will have some defect in speech. Experience with these children has revealed that the majority not only have speech difficulties but also have language problems, as evidenced by their limited understanding of what is said to them and their poor ability to express their needs through speech or gestures. The severity of their handicap is such that many youngsters are fed, clothed, toileted, washed, put to bed and wakened without any attempt on the part of the parent to ask the child whether

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or not he wants or needs any help. The normal child becomes independent as he matures. The retarded child with cerebral palsy has neither the physical nor the mental potential for developing this independence. The result is an individual dependent on others for his daily existence.

A Speech Program

A properly designed speech program can be instrumental in giving the trainable cerebral palsied child enough speech or language to aid him in developing useful communication. Conventional speech therapy, as carried out in public schools, university and private clinics, is usually done individually or in small groups. Its chief aim is to teach the child to speak as normally as possible. Therapy is given one or more times a week in periods ranging from 15 minutes to an hour or longer. The speech therapist may use many methods and teaching aids to achieve the goal of good speech, but all training is designed to lead to speech improvement and correction. Whether lessons are conducted on an individual basis or in groups, the therapist expects some degree of cooperation, comprehension and motivation from the child.

The person who attempts to do speech training with mentally retarded cerebral palsied children is working with a group which differs from both the mentally retarded and the cerebral palsied. The speech of the mentally retarded is low in productivity or content and frequently contains errors of articulation, but is not usually complicated by gross physiological disturbances of the speech mechanism. The cerebral palsied child with normal intelligence has the desire to speak, but lacks the necessary muscular control of lips, tongue and jaw, and may also have poor breathing. The mentally retarded cerebral palsied child combines the negative aspects of both groups, the result being a child who has low speech productivity, has little to say and has trouble saying it. Speech training with this group becomes meaningful only when communication is the main goal and speech correction is subordinated.

Situational Speech Therapy. A method which can best be called *situational speech therapy* was found to be very satisfactory in working with the trainable cerebral palsied child. The method takes into consideration the severity of the physical handicap and the mental retardation, as well as being most economical of the therapist's time and allowing a maximum of contact with each child in the training center.

Situational speech therapy is based on, and presupposes, an adequate program of recreational therapy, a program of physical therapy, and arts-crafts or occupational therapy. In this method of speech training, the therapist makes himself as much a part of the over-all daily training program as possible. A great deal of individual therapy is not indicated because the retarded child shows very little or no carry-over from one lesson to the next. Many children will not be able to reproduce a specific speech activity five minutes after the end of a 15-minute session. Since repetition is the key to learning for these children, the best speech program should be based on the day-to-day routine of the training center and the execution of speech and communication activities by all the members of the staff.

Daily Program. A therapist should start his program as the children are

brought to school by the busses. A 'good morning' or 'how are you?' for each child or for the group is a good way to start the day. Certain children should be singled out and responses required of them. The therapist can also help to remove the children's coats and hats, asking a question of one, commenting on the shirt of another and admiring the shoes of another. Though outwardly trivial, these acts set the tone for the whole day: speak, make noise, notice the others, communicate. When the children become accustomed to this routine, they will come in and try to let everyone know about something that is new or different.

In most day-school programs, the children are then toileted. Instead of indiscriminate toileting, the children should be asked. Carried out over a long period of time, this procedure will help many speechless children develop regular toilet habits. There will still be accidents and false alarms, but the net result will be a saving of time and energy for the physical care staff. This is communication at its most basic level, but for the parents of these youngsters it can solve one of the most complex problems of home care.

Next, the children are usually put into some kind of circle or group for roll call and the salute to the flag. Rather than taking attendance quickly by checking down the roll, it is better to take time and require each child to make some response, verbal if possible, to his name. In this way, one can reward even a grunt or a short 'ah.' The person responsible for the total program generally has a routine for each day. The speech therapist should make his work unobtrusive to the routine, but yet be a part of it as he goes from one child to another. Thirty seconds with a child who is trying to say 'moo' in a game can often do more good than 10 minutes of blowing out a candle in an individual session. When the desire to speak does not exist, one must seek an activity which is most meaningful to the child and attach to it some speech goal or desire.

Individual Observations Necessary. As the therapist works with, and among, the children, he can observe which children are more alert on particular days. Since some of the children will be on seizure control drugs, they must be worked with whenever they are most receptive. When the children are engaged in individual play activities, the therapist has a chance to concentrate on one child without taking him away from some enjoyable pursuit. One youngster made his first reliable phonation on a swing; 'whee,' 'oo,' 'ah' and 'ee' were very appropriate to being pushed in a swing. In the following months, the same child made many more speech attempts, developed a reliable 'yes' response, took part in singing games and became partially toilet trained.

The therapist can carry out his program during the childrens' general exercise period. Those children who were able to ride tricycles were reminded of a familiar song describing the duties of a traffic policeman. A game was devised in which some adult played 'traffic cop' and the youngsters on their tricycles had to follow directions given orally and supplemented by gestures. The game became more complex as the weeks passed, and tickets were issued to children who did not follow the rules or ride within a certain area. This one activity incorporated physical therapy goals, speech goals and some aspects of the daily recreational program. The carry-over was illustrated

by the fact that some of the children who learned this game started to criticize their parents' driving habits.

Feeding Training. Lunch time presents another opportunity for the therapist to use, suggest and supervise special feeding methods for the children. Feeding training has long been a part of habilitative speech programs for the cerebral palsied; the most natural time to do it is at meals. By feeding all of the children at various times, the therapist can pay attention to the necessary details and prescribe methods of feeding for each child. In this way, the child gets therapeutic benefits whether or not he is fed by the therapist. Assuming responsibility for the feeding training allows the therapist to turn a routine, and sometimes hastily performed, act into a highly important training procedure. The attention of the other staff members is focused on just one more aspect of the total habilitative problem.

Lunch is followed by a rest hour which can be utilized to do any necessary individual work. Since the children differ in their rest hour needs, the therapist can devise a schedule which will not deprive any child of a brief nap. Shortly after the rest hour, the center's day comes to a close with more songs or stories. At this time, the therapist again assumes the role of roving teacher. He may help some child perform appropriate responses, remind another to sing and not just listen, or directly manipulate another child's lips to help him form words. The therapist is often at liberty to suggest games, songs or stories and can pick those which have some definite speech goals. The school day ends with the dressing of the children for their return home. Much the same procedure can be used as was followed in the morning with necessary changes for the childrens' departure.

Problems Encountered. As with anything new, this kind of therapy presents some problems. One of them is record keeping. The therapist will find it difficult to make daily or even weekly entries on each child's speech record because the children are handled in large groups and gains are slight. Rates of progress are so variable that monthly statements may change very little. The year-end report will be the most complete and comprehensive one. The most expedient method would be to record positive or negative changes as they occur. Another possible problem is the relationship of the speech therapist to the other professional personnel. This, however, involves individual personalities and will differ in each center. Obviously, the more cooperation there is among the various therapeutic specialists, the more beneficial the total program will be.

All therapies will be concerned with parental help and cooperation. Whenever the speech therapist can suggest specific training procedures, he should do his best to inform the parents and enlist their aid. Many helpful suggestions can be made about feeding, handling and communication. Good parent-therapist relationships are important and every effort should be made to foster them.

Conclusion

The program of therapy described above is not theoretical, but is based on two years of work in a training center. The program does not amend or correct accepted therapeutic methods used with educable cerebral palsied children. Instead, it borrows from what is valid and uses new techniques to cope with situations which

have not been dealt with before. It is in no sense complete and will continue to be modified as the need arises. Important variables such as range of intelligence, number of children in the center and degrees of handicap of the children will alter the effectiveness or feasibility of the program. However, as training centers continue to be opened, some basic plan for speech therapy is necessary. The described program offers a sound basis for developing and encouraging speech and language in the retarded cerebral palsied child.

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Audiometric Considerations In Stapes-Mobilization Surgery

Philip E. Rosenberg

In fenestration surgery for otosclerosis it has been possible to predict the post-operative hearing result of successful surgery. By correcting for the mechanical bone-conduction shift, or 'Carhart notch,' and allowing for the residual 25 db conductive impairment due to the disruption of the ossicular chain, it may be stated with reasonable certainty what the post-operative hearing will be. Therefore, the selection of cases for the fenestration operation was greatly simplified, since they could be selected on the basis of the predicted post-operative hearing result. If there was a significant depression in the bone-conduction pre-operative audiogram, it was immediately realized that the post-operative result, no matter how successful the surgery, would not yield a practical level of hearing.

The newer procedure, that of stapes mobilization, presents a less distinct prognosis, since it is possible, by means of this surgical technique, to restore the ossicular chain to its normal function and completely close the air-bone gap. This ideal result is obtained in only approximately five per cent of the cases. In most of the successful cases the hearing is brought only to the 15-20 db level. Nevertheless, complete closure of the air-bone gap is the aim of the operation and must be considered in selecting cases for stapes-mobilization surgery.

This complete closure of the conductive hearing gap, which is the ultimate in surgical restoration of hearing, has resulted in various problems for the audiologist, both in terms of case selection and eventual auditory rehabilitation. Since there is no longer an inescapable 25 db conductive impairment following surgery, the otologist is somewhat less limited in his selection of cases for the operation. The fact that the selection procedures have become less rigorous than for the fenestration operation has resulted in a problem that is of particular interest to the clinical audiologist.

Case Illustration

Figure 1 illustrates the pre-operative audiogram of a patient who was to undergo stapes-mobilization surgery. The audiogram is one of a moderate mixed type of hearing loss, primarily conductive, which had been attributed to otosclerosis. The bone-con-

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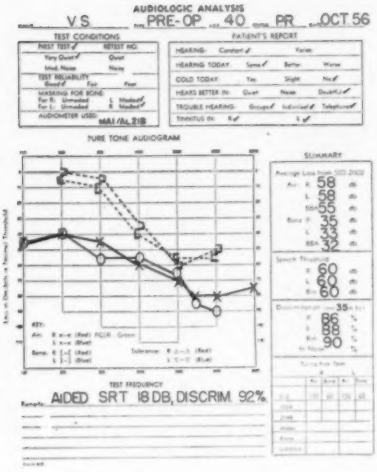

FIGURE 1. Pre-operative audiogram of a patient with mixed deafness and otosclerosis.

duction thresholds are normal in the low tones and drop off to a moderate degree in the higher frequencies. Owing to the marked variability of the 'Carhart notch,' that is, the mechanical bone-conduction shift which does not, in fact, reflect true neural depression, it is not possible to determine accurately how much of this high frequency bone-threshold shift is caused by actual nerve deafness. It is possible that much of this apparent loss is due to the enlargement of the 'Carhart notch.' The speech reception threshold of 60 db agrees very well with the pure-tone average, and the audiometric curve itself is flat and bilaterally symmetrical. The discrimination scores are good both binaurally and monaurally. The patient had been wearing a hearing aid for several years and the test scores indicate his use of the instrument was good in both sensitivity and discrimination.

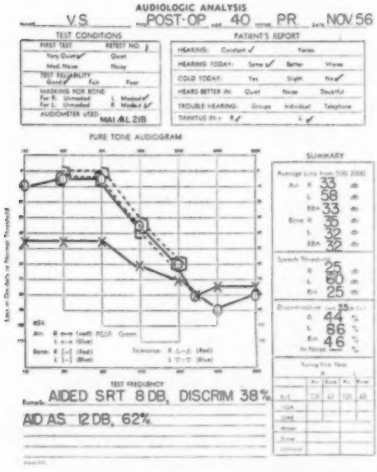

FIGURE 2. Audiogram of patient after stapes-mobilization surgery had been successfully performed on the right ear.

A stapes mobilization operation was performed on this patient's right ear. During the surgical procedure the stapes was indeed found to be firmly fixed and was mobilized by the Rosen technique. Immediately following the operation, the patient reported excellent hearing. He was seen again later that afternoon in his room and stated that his hearing had improved markedly and he could hear even the very softest sounds.

Several days after the packing was removed from the ear canal he began to realize that although the sensitivity of his hearing had been greatly increased he was having considerable difficulty in understanding conversational speech. The patient was referred to the Audiology Department for further study. Figure 2 shows the first post-operative audiogram. It is apparent that the results of the mobilization surgery were excellent and that the air-bone gap was completely

closed in the operated ear. The pure-tone average improved markedly and the speech reception threshold improved even more. This case was truly a marked surgical success.

Audiologically, however, the success was somewhat tempered by the rather great change in the patient's discrimination scores. Before the operation his discrimination was quite good, but post-operatively it was extremely poor. In monaural testing he understood only 44 per cent of the test words in the operated ear regardless of the level at which they were presented. In the unoperated ear the discrimination score remained good when the operated ear was masked. Apparently, then, the depression in the original pre-operative bone-conduction audiogram was indeed indicative of a true nerve deafness and there was very little, if any, trace of a mechanical bone-conduction shift which would have changed following surgery, particularly since the ossicular chain was supposedly restored to normal function. The depression of hearing in the high tones apparently caused a marked decrease in discrimination owing to the loss of the high frequency consonant sounds. Because the PB test was administered at a level of only 60 db (35 db above the binaural speech threshold), the binaural discrimination score was essentially the same as that in the operated ear.

The patient was tested with hearing aids on the operated ear and it was found that it was impossible even to equal the unaided discrimination score by the use of a hearing aid. Since the patient had previously done so well with an aid, he was tested with an instrument on the unoperated ear, which still had a flat type of hearing loss. However, with the good ear unoccluded, the discrimination score could be raised only very slightly, probably because of the new 'built-in' distortion present in the good ear. With the operated ear masked, discrimination was good with the hearing aid in the unoperated ear; however, this was hardly a practical solution to the patient's difficulty.

Discussion

The case presented here is very interesting for the number of problems it creates. Had the surgery been less successful and had there been a slight air-bone gap left in the low frequencies, it is possible that the discrimination would not have dropped nearly as markedly as it did. Furthermore, had the initial high frequency loss been due, at least in part, to the 'Carhart notch' phenomenon (ideally, a particularly deep notch), then again the eventual outcome of the surgical procedure might have been entirely different.

It is not possible to offer any solution to this problem as it presently exists, but it is obvious that some research should be devoted to the question of determining how much the mechanical bone-conduction shift can vary and how it might be possible to predict the post-operative bone-conduction threshold on a patient with a mild high tone drop. It is dangerous to assume that any depression in the pre-operative bone-conduction curve is due to the 'Carhart notch.' Furthermore, the ability of stapes-mobilization surgery to close the air-bone gap completely and leave no residual low tone conductive 'cushion' might well raise more problems than it solves, since even a slight high tone nerve deafness, which is not at all uncommon in otosclerosis, might result in some degree of discrimination impairment.

Summary

Stapes-mobilization surgery may create a problem in auditory rehabilitation. A case is discussed in which successful surgery on an ear with mixed deafness resulted in a marked loss in speech discrimination. Complete closure of the air-bone gap left the patient with a high frequency nerve loss and resultant difficulty in discriminating consonant sounds. Amplification was unable to improve the discrimination for speech.

Methods for estimating the 'Carhart notch' and predicting post-operative hearing levels in cases of mixed deafness are sorely needed.

Adaptation To Sustained Delayed Sidetone

Richard A. Winchester

Edward W. Gibbons

Donald F. Krebs

Previous discussions of the use of delayed sidetone have emphasized its application as a means of detecting non-organic deafness. Hanley and Tiffany have suggested that it is desirable for tests designed to detect the presence of non-organic deafness also to give a 'reasonable approximation of the "true threshold" ' (*4*). Clinical evidence now suggests that delayed sidetone techniques are susceptible of refinement and further development which would permit their use in a threshold estimation procedure.

For the past two-and-a-half years a program of research has been conducted in the Audiology and Speech Correction Clinic, Veterans Administration Regional Office at Los Angeles, California, which has had as its goal the clinical utilization of delayed sidetone procedures as a means of estimating organic auditory thresholds in subjects who cannot or will not provide them volitionally. This research has demonstrated the feasibility of using auditory masking in conjunction with the uniaural presentation of delayed sidetone (7), resulted in a clinical delayed sidetone test for detecting uniaural non-organic deafness (*2*), described the lack of influence of auditory masking upon oral reading rate (*8*) and pointed to the stability of unimpeded oral reading rate (*3*). The information derived from these studies has resulted in an increased scope of application of delayed sidetone audiometry and has provided an awareness of other problems rquiring investigation.

Among the problems subjected to further study was the question of the extent of adaption to sustained delayed sidetone. This problem became important when it appeared evident that sustained periods of oral reading must be involved in any delayed sidetone procedure aimed at organic threshold estimation. Previous investigation of adaptation to delayed sidetone had been limited to the reading of short phrases and passages (*1,6*). Consequently, it was determined to investigate the extent of adaptation to sustained delayed sidetone presentation under one condition of signal delay and intensity within conditions duplicating the clinical application of this technique.

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TABLE 1. Mean reading times in seconds.

	Section									
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Mean	70.4	68.5	65.3	65.9	64.0	62.1	62.8	63.1	59.7	58.8
Population Variance(σ^2)	187.7	182.3	166.4	179.6	204.5	134.6	136.9	116.6	114.5	114.5

Subjects

A single group of 60 normally hearing subjects selected at random from a pool of veteran patients seen in the Clinic was tested under delayed sidetone. All subjects included for study were screened for reading or visual defects, speech or language disturbances and a history of neuropsychiatric disability. In addition, no person showing a speech reception threshold worse than five db or a puretone threshold poorer than 20 db for a single frequency from 125-8000 cps was tested. The mean age of all subjects was 29.3 years, and there were 57 males and three females in the experimental group.

Oral Reading Materials

The same prose passage previously used in the study of the stability of unimpeded oral reading rate (*3*) was employed to elicit the oral reading responses. As a result of the experience with this former project, the experimenters made changes in the text of the passage which increased the similarity of reading difficulty from one section to the other. As before, the reading passage was divided into ten 200-syllable sections.

Equipment

A modified Magnecorder Tape Recorder, Model PT-63 AH, with an associated PT-63J amplifier provided the means of delaying the speech feedback. The signal delay, according to the manufacturer, was approximately 160 milliseconds. Control of the presentation levels for the delayed signal was accomplished through the use of a U. S. Recording Hearing Evaluator, Model 200. The delayed speech feedback was presented to the subjects by means of Permoflux receivers, Model PDR-8 with MX/41/AR cushions. The testing equipment was located in a standard two-room, acoustically-isolated test suite and was aligned and calibrated at regular intervals.

Procedures

Each subject read the entire 2000-

TABLE 2. Summary of analysis of variance testing reading rate differences.

Source of Variation	*d. f.*	*Sum of Squares*	*Mean Squares*	*F*
Total	599	113,108	....	
Adaptation	9	7,106	789.6	20.4
Subjects	59	85,399	1,447.4	
Subjects X Adaptation	531	20,603	38.8	

TABLE 3. Differences in seconds between individual pairs of mean reading times.

	Section								
	2	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1	1.9	5.1*	4.5*	6.4*	8.3*	7.6*	7.3*	10.7*	11.6*

* Differences significant beyond one per cent level of confidence.

syllable passage while receiving delayed sidetone at a sensation level of 60 db in both ears. In order to study the effect of this sustained oral reading under a single condition of signal intensity and delay, the oral reading times for each of the ten 200-syllable sections were measured with stopwatches. Thus, 10 oral reading times were obtained for each subject. No other indices of performance were secured. Each subject was tested in the same test room and given the same standardized instructions to read the entire test passage without stopping or consciously changing the usual mode of reading aloud. In order to overcome the problem of intersubject differences in oral reading rate, a treatment times subjects experimental design was employed.

Results

Table 1 contains a summary based upon the individual reading times secured for each test passage section. Inspection of these data reveals the presence of substantial differences among the mean reading times obtained for the 10 reading sections. In order to estimate the significance of these differences, suitable analysis of variance techniques were applied. Table 2 presents a summary of the computations resulting in an over-all *F* score which reveals that the mean differences among the 10 reading times were significant beyond the one per cent level of confidence.

Next it was necessary to determine which of the individual mean reading times differed significantly from the first mean reading time. To accomplish this, the method of testing differences between individual pairs of treatment means outlined by Lindquist (*5*) was employed.[1] Table 3 contains a tabulation of these mean differences. Examination of this table indicates that all of the differences between compared treatment means were significant beyond the one per cent level of confidence, with the exception of the difference between treatment means 1 and 2.

Summary and Conclusions

In order to refine delayed sidetone audiometry to the point that it can be used to estimate organic threshold values, it is clear that more information regarding adaptation to sustained delayed sidetone presentation is required.

This investigation was designed to study the extent of adaptation to sustained delayed sidetone presentation, and results make it possible to conclude that a significant degree of adaptation under a single condition of signal intensity and delay does occur after the reading of 400 syllables of homogeneous prose. This finding was taken as indication that as many as 400 syllables of reading in the presence of delayed sidetone can be ac-

[1] $d = t\sqrt{\frac{2ms_w}{n}}$

complished before any vitiation of the speech-interfering effects will occur.

Whether or not this adaptation effect can be prevented by altering the conditions of presentation remains to be determined through additional study. There is empirical evidence, however, which suggests that changing signal delay time and/or increasing signal intensity level during the test may prevent, to a large extent, the tendency for the subject to adapt. Until more is known concerning this aspect of the adaptation process, it would appear that any delayed sidetone test should involve no more than 400 syllables of oral reading per test condition in order to avoid lessening the effectiveness of this audiometric procedure.

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Diagnoses Of Stuttering As Made By Adolescent Boys And Girls

Edward D. Mysak

In reviewing the problem of stuttering, the sex ratio is found unique because of its universal acceptance by investigators (*6, 8, 11*) of stuttering phenomenology. It is also seen that these investigators expound either some type of organic theory (*7, 12*) for this phenomenon or an environmental theory (*8*).

The investigation of the sex ratio in this study was related to Johnson's (*5*) well-known, culturally-oriented, 'diagnosogenic' theory of stuttering which, in essence, maintains that stuttering develops when laymen, usually parents, diagnose as stuttering the normal nonfluencies of early childhood; Johnson declares that stuttering develops after this spurious diagnosis.

When the sex ratio on the basis of this theory is examined, two rather obvious explanations present themselves. The first explanation is based on the possibility that boys may, in actuality, be less fluent than girls and, consequently, more prone to misdiagnosis (even in the presence of equal standards of fluency for both sexes). If this were true, the male child would more frequently be diagnosed as a stutterer and according to the 'diagnosogenic' theory would more often develop stuttering. This possibility is supported by Davis (*4*), who found that among 62 two-to-five-year-old children boys measured 45 repetitions per thousand words in the course of one hour of spontaneous speech as compared to 34 per thousand words for the girls. The second explanation rests on the possibility that males may be exposed to higher standards of fluency because of our particular society and are, consequently, more frequently misdiagnosed as stutterers; this situation would also tend to produce a greater number of male stutterers. Schuell (*9*) supports this possibility when she reported, in her study of the sex ratio, that the male child in our culture must conform to standards of parents and teachers which are deleterious to the child. In addition, Schuell indicated that the slower developmental rate of the male also contributed to this situation.

Relative to differences in standards of fluency among particular groups of individuals, Bloodstein, Jaeger and Tureen (*1*) conducted an experiment which showed that parents of stutterers made significantly more diagnoses of stuttering than parents of non-stutterers when asked to judge the recorded speech of young stuttering and non-stuttering children. As a result of this study, they stated that the extent to which a child's nonflu-

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TABLE 1. Scores of 37 boys and 29 girls on the Brooklyn Test of Tolerance for Childhood Nonfluency.

	Boys	*Girls*	*Difference*	*S. E. Diff.*	*t*
Mean	17.41	19.34	1.93	.928	2.08*
S. E.m	.453	.875			
Range	11–24	7–30			
S. D.	2.72	4.63			

* Significant at the five per cent level of confidence.

ency is excessive depends not only upon the amount of repetitions in his speech but, to a substantial degree, upon the person who is listening.

Because of the accepted existence of the sex ratio and because it has been shown by Bloodstein *et al.* (*1*) that high standards of fluency seem to be acquired, it follows that these high standards of fluency may be selectively imposed on males and eventually introjected[1] by males.

Related to this possibility of a sex difference in standards of fluency, Bloodstein and Meltzer (*2*) gave a test of tolerance for childhood nonfluency to a group of college men and women and found that men made significantly more diagnoses of stuttering than did females. Another study, designed specifically to determine whether the sex ratio in stuttering can be attributed to differences in standards of fluency, was done by Bloodstein and Smith (*3*), and they also reported that college males made significantly more diagnoses of stuttering than college females.

These findings suggested the existence of a lower tolerance in college males for speech nonfluency and the possibility that this lower tolerance in college males may have resulted from the early imposition and subsequent introjection of higher standards of fluency as previously discussed. To further substantiate these inferences, drawn as a result of the college studies, it would be necessary to investigate whether such sex differences in standards of fluency extended to younger age levels. With this in mind, the next lower age group that seemed feasible to test was the high school freshman group. Therefore, the specific problem of the present study was to discover whether a sex difference in standards of fluency exists among adolescent boys and girls.

Procedure

The Brooklyn Test of Tolerance for Childhood Nonfluency[2] was used as the testing material. The test consisted of 34 samples of speech of 15 seconds duration each. The samples represented the spontaneous speech of four-to-six-year-old non-stuttering children.

The main subjects were 37 boys and 29 girls enrolled in two sections

[1] Introjection is a mental operation by which a person appropriates an occurrence or characteristic and makes it a part of himself. *The American Illustrated Medical Dictionary*, 22nd ed.

[2] The Brooklyn Test of Tolerance for Childhood Nonfluency was administered to 141 college students to establish reliability. The split-half reliability coefficient (corrected by the Spearmen-Brown formula), was $r = .821$. The standard error of measurement was 1.91.

TABLE 2. Scores of 37 younger boys and 10 older boys on the Brooklyn Test of Tolerance for Childhood Nonfluency.

	Younger Boys	*Older Boys*	*Diff.*	*S. E. Diff.*	*t*
Mean	17.41	15.30	2.10	1.053	1.99
S. E_m	.453	1.163			
Range	11–24	6–19			
S. D.	2.72	3.49			

of a first year English course at Abraham Lincoln High School (located in Brooklyn, N. Y.). The girls ranged in age from 13 to 16 with a mean age of 13.68; the boys ranged in age from 13 to 14 with a mean age of 13.81. The similarity in class standing, age, high school and socio-economic level controlled these variables to a degree considered sufficient for this type of experiment. An opportunity arose during the course of the experiment to test 10 older boys who ranged in age from 15 to 17 with a mean age of 15.65; this opportunity was utilized since it was thought the additional findings might possibly contribute to the final results of the experiment.

The test of tolerance was given to the two English classes, at different times, during the same morning. The first group consisted of 17 boys and 18 girls and the second group consisted of 20 boys and 11 girls, plus the 10 older boys. The students received the following instructions:

> Almost all of you, I think, know what we mean by the word 'stuttering.' Sometimes we call it 'stammering.' These are two words for the same speech difficulty. Some of you have known children who stutter. Perhaps a few of you have stuttered yourselves.
>
> We want to find out whether you can recognize stuttering when you hear it. I am going to let you hear 34 very short samples of the speech of young children. As you listen to each one, try to judge whether or not the child is a stutterer. If you think he is a stutterer, please write the letter 'S' next to his number on the answer sheet. If you think he is not a stutterer, write the letter 'N' next to the number.
>
> For example, if the first child you hear is a stutterer, write 'S' next to number 1. If he is not, write 'N'.

The result of this procedure was a score sheet from each pupil indicating the number of stuttering samples discovered.

Results

The results of the experiment are summarized in Tables 1 and 2. Table 1 shows that the mean score for the boys was 17.41 diagnoses of stuttering as compared to 19.34 for the girls.

TABLE 3. Scores of 37 young high school males and 55 college males in the Brooklyn Test of Tolerance for Childhood Nonfluency.

	Young High School Males	*College Males*	*Diff.*	*S. E. Diff.*	*t*
Mean	17.41	10.13	7.28	.760	9.57*
S. E_m	.453	.612			

* Significant beyond one per cent level of confidence.

TABLE 4. Scores of 10 older high school males and 55 college males in the Brooklyn Test of Tolerance for Childhood Nonfluency.

	Older High School Males	*College Males*	*Diff.*	*S. E. Diff.*	*t*
Mean	15.30	10.13	5.17	1.312	3.93*
S. E...	1.163	.612			

* Significant beyond the one per cent of confidence.

The difference was significant at the five per cent level of confidence, *t* being 2.08. This difference indicated that the girls rather than the boys made the higher diagnosis scores and, therefore, represented a marked reversal of the results obtained when similar tests were administered to college students. Table 2 indicates that the mean score for the younger boys was 17.41 diagnoses of stuttering as compared to 15.34 for the older boys. The difference in this case was not significant, *t* being 1.99; however, it was consistent with an apparent trend toward lower scores as a function of age.

The tendency toward lower scores as a function of age was substantiated when the results of the two adolescent groups were compared with the results obtained with the same test in a study of college students by Bloodstein and Meltzer (*2*). Table 3 reveals that when the mean score of 17.41 for the younger high school boys was compared to the mean score of 10.13 for the college males, the difference was very significant, *t* being 9.57; Table 4 shows that the difference between the older high school boys' mean of 15.30 and the college males' mean of 10.13 was also very significant, *t* being 3.94.

Discussion

The results of this experiment showed that a group of adolescent girls made significantly higher diagnosis scores, when confronted with samples of the recorded speech of non-stuttering children, than a comparable group of adolescent boys. Therefore, the findings with a younger group did not concur with those on the college level and, consequently, did not tend to support further the 'cultural' theory for the sex ratio. The sex ratio in stuttering appears to be due to factors other than higher cultural standards of fluency for boys. Therefore, according to the 'diagnosogenic' theory, the cause of the sex ratio may more likely lie in a sex difference in fluency *per se* as discussed in the introduction.

In comparing the groups of boys, the outstanding result was the tendency toward a progressively lower diagnosis score as a function of age. This agrees with Bloodstein's (*3*) inference that standards of fluency seem to diminish with maturity; it would be interesting to ascertain the cause of the progressive decline in sensitivity toward nonfluency as a function of maturity. This finding might also imply, relative to the 'diagnosogenic' theory, that stuttering severity might be expected to diminish as a function of maturity, or, that the incidence of stuttering might also be expected to diminish as a function of age. The latter inference tends to be supported by the report of Shames and Beams (*10*).

Summary

In an attempt to clarify certain implications, relative to the sex ratio in stuttering according to Johnson's theory, which arose from the two studies dealing with college students, a group of adolescent boys and girls were tested with the Brooklyn Test of Tolerance for Childhood Nonfluency. The purpose of this experiment was to discover whether a sex difference in standards of fluency existed among adolescent boys and girls. The essential findings of this investigation were as follows:

1. Adolescent girls made significantly more diagnoses of stuttering than adolescent boys. These results indicated that the lower tolerance for childhood nonfluency, as exhibited by college males, does not extend to a younger age level; and therefore, the inference implied by the college studies that the sex ratio may be due, in part, to the introjection by males of culturally imposed higher standards of fluency was not substantiated.

2. The older adolescent boys made slightly but not significantly less diagnoses of stuttering than the younger adolescent boys; however, significant differences were discovered when the adolescent groups were compared with the college group. These findings may reveal a tendency in the male to become progressively more tolerant toward nonfluency as a function of maturity. Clarification of these results may prove of some value relative to gerontological trends in male standards of fluency.

In view of the findings of this experiment, the sex ratio, according to the 'diagnosogenic' theory of stuttering, can more easily be explained in terms of an actual difference in fluency *per se* existing in an atmosphere of high standards of fluency for both sexes. The difference in fluency per se might be regarded as encouraging a greater number of misdiagnoses among males, and, therefore, precipitating the problem of stuttering more often in boys than in girls.

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Efficiency Of Teacher Referrals In A School Speech Testing Program

Charles F. Diehl

Charles D. Stinnett

Although some public school speech correctionists and specialists on state department staffs use a teacher referral system for locating speech or hearing defective children, the efficiency of this system has been only partially studied. Curry (*1*) studied the efficiency of teacher referrals in a school hearing testing program and reported that teachers correctly identified approximately one of four hearing loss cases. Kodman (*3*) in a similar study found correct identifications in one of six cases. These studies, however, appear to be the extent of the reported research in the area.

The report which follows describes a study which attempted to answer the following question: What is the efficiency of a teacher referral system for speech defectives?

Procedure

To minimize the variable of teacher training, 72 Kentucky counties in which no public school speech correctionists were, or ever had been, engaged were originally chosen for study. From these 72, 40 counties were randomly selected and contacted via school superintendents regarding their willingness to participate in a study of speech defectives in their school systems. Of these, 70 per cent replied favorably, 27.5 per cent failed to reply, and 2.5 per cent indicated they were uninterested. Of the counties replying favorably, 14 were selected randomly for study. The final representative sample from these counties consisted of 77 schools within 21 school districts containing approximately 3200 second grade children. It was decided to limit the study to second grade children since normal speech maturity (acquisition of all speech sounds) can be expected by seven and one-half or eight years of age (*4*)—the age of most second graders.

Each of the 21 superintendents whose districts were participating was sent a letter outlining the objectives of the study, the procedure and copies of information sheets. After a favorable reply was received from a superintendent, all principals and second grade teachers within his district were sent information designed to facilitate the efficient completion of the survey. In addition, each second grade teacher was asked to complete a questionnaire

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for every child in her room as follows: child's name, age, number of grades failed (an item of study not reported in this paper) and whether the child possessed a speech or voice problem. (The terms 'speech' and 'voice' were both indicated because it was believed that for at least some teachers the word 'speech' might limit their judgments to errors of articulation and rhythm only.) No attempt was made in the questionnaire to define or classify speech defects.

After a sufficient amount of time had elapsed to enable the questionnaire to be completed, two certified speech therapists visited each of the schools involved and examined all of the second grade children. (A total of 3061 second grade children were examined during the six-month testing period: 1562 boys with a mean age of eight years and 1499 girls with a mean age of seven years, 10 months.) To prevent any possible bias, the teacher questionnaires were not collected by the examiners until after the examinations.

For determining speech defectiveness the Van Riper (*4*) criteria were used. Disorders of articulation, phonation, and rhythm and any combination of these were considered as major classification areas.

Each second grader was tested individually by the following basic pattern: 'What is your name?' 'How old are you?' 'How many brothers and sisters do you have?' 'What are their names?' 'What do you like best about going to school?' After rapport was established, a further sample of the child's speech was obtained as follows: 'Count from one to ten.' 'Name the days of the week.' 'Recite the poem "Jack and Jill" or "Little Jack Horner"' (or any other poem familiar to the child). If there was no evidence of a speech defect after this initial interview, the child was dismissed. If deviations were observed, the type and severity were noted and in cases of articulation defects the Henja Developmental Articulation Test (*2*) was administered.

To determine the reliability and validity of the examiners' ratings, 25 interviews with children whose speech ranged from normal to severely defective were recorded. These recordings were then rated by five trained clinicians from the Speech Center at the University of Kentucky. Their ratings correlated perfectly with those of the examiners ($r = 1.00$).

Results

A comparison of the teacher questionnaires and the ratings of the speech clinicians revealed the following:

1. Second grade teachers identified 363 or 57.3 per cent of the 634 rated defectives by the trained clinicians. They failed to identify 271 or 42.7 per cent of the group.

2. Percentage of correct teacher identifications for the various types of speech disorders were as follows: articulation, 60.6 per cent; voice disorders, 36.9 per cent; articulation and voice, 70.0 per cent; rhythm, 44.4 per cent; rhythm and articulation, 66.6 per cent.

3. Teachers correctly identified 210 or 81.6 per cent of the severe-type (four or more sound errors) articulation cases as compared with 304 or 42.7 per cent of the articulation cases judged to have mild articulation defects.

4. Considering the total accuracy of teacher identification of the 634 speech defectives, regardless of type and degree of difficulty, approximately two of every five were not identified in any way.

5. Teachers correctly identified 221 or 58.2 per cent of the 380 defective boys and 142 or 55.9 per cent of the 254 defective girls. (This difference is not statistically significant.)

Conclusions and Discussion

Within the limitations of the sample and recognizing that teacher certification requirements differ from state to state the following conclusions seem logical:

1. Elementary grade teachers with no orientation in speech disorders can be expected to locate speech defective children with less than 60 per cent accuracy. They can be expected to fail to identify two of every five who would in routine screenings be located by trained speech clinicians.

2. These same teachers can, however, be expected to locate severe-type articulation defectives with slightly better than 80 per cent accuracy.

3. Teachers appear to have least skill in recognizing a voice disorder in a second grade child. It can, of course, be argued that the voice variables (pitch, rate, volume, inflection, quality, phrasing) are normally not stabilized at ages seven and one-half or eight and that judgments of defectiveness should, therefore, be withheld. On the other hand, it can also be argued that inefficient habits of rate, volume, inflection, *etc.*, used at this age may continue as speech habits into adulthood.

4. Teachers apparently recognize speech defects as well in boys as in girls.

5. An in-training orientation program to help teachers recognize and identify speech defectives seems justified on the basis of these findings. Additional research, however, to study the effect of such an orientation program is indicated.

Summary

To determine the efficiency of teachers with no known orientation in speech disorders in locating speech defective children in their classrooms, 3061 second grade children representing 14 different counties were evaluated for speech both by teacher questionnaires and examinations by two trained speech clinicians. Comparisons of the reports showed that teachers with no orientation can be expected to miss two of every five children classified as defective by clinicians.

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Glottal Stops In The Speech Of Children With Cleft Palates

Dorothy Sherman

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J. Douglas Noll

The glottal stop is often mentioned (*1, 2, 3, 4, 5,* 7, *12, 13*) as a typical substitution for difficult sounds in the speech of individuals with cleft palate. In general, authorities seem to agree that glottal stops are typically substituted for the [k] and the [g]. McDonald and Koepp-Baker (*5*) state that the cleft palate speaker may obstruct the outgoing air stream at the level of the glottis to obtain breath pressure and thus may develop the glottal stop as a substitute for plosives. Koepp-Baker, in an unpublished paper quoted by Aaron, *et al.* (*1*), has indicated that the cleft palate speaker may substitute the glottal stop for fricative sounds as well as for plosives.

The occurrence of the glottal stop substitution in the speech of individuals with functionally defective articulation is a common clinical observation. To the writers' knowledge, however, this has not been the subject of systematic investigation nor has it been discussed to any extent in the literature.

The major purpose of the present study was to compare the speech of children with cleft palates to the speech of children with functional misarticulations with reference to conspicuousness of glottal stops. An attempt was made to analyze and to interpret results of the experiment for implications which might be useful to the speech therapist.

Procedure

Speech Samples. Tape-recorded samples from the speech of 50 children with functional misarticulations and from the speech of 50 children with cleft palates were obtained from several sources. The age range was approximately four to 10 years. In a few instances the age was unknown and samples were selected by agreement among the three experimenters that the voice had not undergone adolescent change.

The 100 experimental samples, each 30 seconds long, consisted variously of nursery rhymes, counting, story telling, reading and conversation. Since the speech samples were obtained from several sources, various

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equipment had been used for the original recordings. The 100 experimental samples were dubbed onto a final master tape in a predetermined random order with number announcements by means of a Presto RC 10/24 tape recorder, at 15 inches per second. Approximately constant volume levels were maintained by use of a VU meter.

Rating of Samples. The speech samples were presented to two groups of judges, with 35 listeners in each group, to be rated for conspicuousness of glottal stops by one group and for defectiveness of articulation by the other group. The rating scale was a seven-point equal-appearing intervals scale with *one* representing least severe and *seven* representing most severe. After the 100 experimental samples had been rated, the first 25 samples were rated again for the purpose of obtaining data for evaluating the reliability of the measures to be obtained from listener ratings.

All judging was done in a sound-treated room. The playback equipment consisted of an Ampex tape recorder, 403-2, a Scott amplifier, 210-A, and a Jensen speaker system, BF409, with a high frequency Jensen speaker, RP302, added.

Rating of Glottal Stops. The 35 judges who rated the speech samples for conspicuousness of glottal stops all had had a course in voice and articulation disorders. The listening periods were on two consecutive days. On the first day, during a session of one hour, the judges were trained for the experimental task; on the second day, during a session of one and one-half hours, they rated the speech samples.

During the training period the judges listened to tape-recorded examples of glottal stops and glottal initiation of vowels. The examples included isolated vowels, single words, phrases and sentences. The judges also listened to six 30-second speech samples selected by the experimenters to represent the range of conspicuousness of glottal stops in the experimental samples. They practiced rating on the last 25 of the 100 experimental samples. The six speech samples employed for establishing the range of conspicuousness of glottal stops during the training session were again presented at the beginning of the experimental rating session.

Rating of Articulation. No one who had rated conspicuousness of glottal stops was included in the group of 35 judges who rated defectiveness of articulation. The judges in this group were university students, most of whom had had some training in the area of speech pathology. On the basis of results of research reported by Morrison (*8*) it was assumed that satisfactorily reliable scale values of defectiveness of articulation could be obtained from the responses of judges regardless of whether they had had training in diagnosis of speech disorders.

The judges listened to eight samples selected by the experimenters to represent the range of defectiveness of articulation to be rated. The samples representing least defectiveness contained no obvious misarticulations. These were included in the experimental tape but were not considered in the statistical analysis. The four samples representing most defectiveness were from the experimental group. Prior to the experimental rat-

ing, the judges rated 15 samples (numbers 76 through 90) for practice.

Phonetic Transcriptions. Phonetic transcriptions were made of 95 of the 100 speech samples. The articulation deviations in five of the samples were too severe to permit analysis. The purpose was to observe (1) positions in which glottal stops occurred, (2) sounds for which glottal stops were substituted and (3) frequency of glottal stops in each sample.

Results

Scale Values. Median scale values and *Q* values were computed for each of the 100 samples for (1) conspicuousness of glottal stops and (2) defectiveness of articulation in the way described by Thurstone and Chave (*11*).

Reliability of Scale Values. In general, the *Q* values, which measure the dispersion of judgments, were satisfactorily small. The obtained mean *Q* values were .91 for the measures of conspicuousness of glottal stops and .68 for the measures of defectiveness of articulation.

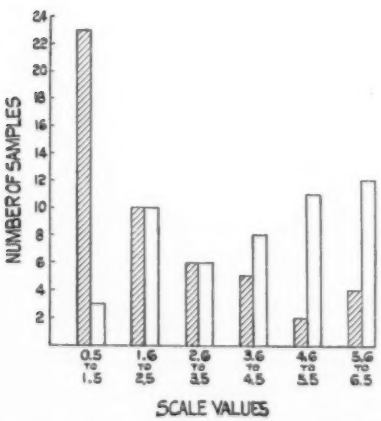

FIGURE 1. Distributions of scale values of conspicuousness of glottal stops in 50 functional misarticulation speech samples (cross-sectioned bars) and in 50 cleft palate speech samples (plain bars).

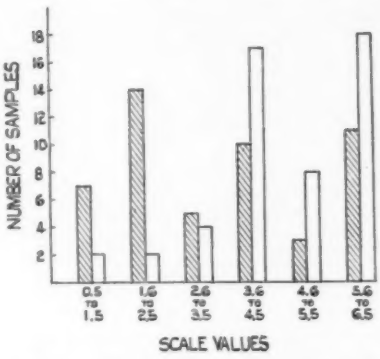

FIGURE 2. Distributions of scale values of severity of misarticulation in 50 functional misarticulation speech samples (cross-sectioned bars) and in 50 cleft palate speech samples (plain bars).

Repeated measures of severity for 25 samples were compared by means of the Pearson *r* procedure along with a test of the difference between means. The obtained correlation coefficients were high, .97 and .98. The difference between means was not significant[1] for the defectiveness of articulation measures. For the conspicuousness of glottal stop measures, the difference was significant[2] at the five per cent level. This difference, however, was quite small, .12 of a scale value. The measures were thus assumed to be satisfactorily reliable.

Analysis of Scale Values. The distributions of scale values of conspicu-

[1] $t = (3.05 - 2.96)/.084 = 1.07$; $t_{.05}(df = 24) = 2.06$

[2] $t = (4.28 - 4.16)/.058 = 2.07$; $t_{.05}$ (df = 24) = 2.06

TABLE 1. The 10 most common phonetic situations in which glottal stops were observed in the cleft palate (C.P.) speech samples and in the functional misarticulation (F.M.) speech samples.

Rank	*Phonetic Situations* C.P.		F.M.	
1	Pre-vocalic	[ə]	Pre-vocalic	[ə]
2	Terminating	[t]	Pre-vocalic	[æ]
3	Pre-vocalic	[æ]	Pre-vocalic	[aɪ]
4	Terminating	[k]	Terminating	[t]
5	Initiating	[k]	Initiating	[t]
6	Pre-vocalic	[aɪ]	Initiating	[k]
7	Initiating	[t]	Pre-vocalic	[ɔ]
8	Pre-vocalic	[ɪ]	Initiating	[h]
9	Pre-vocalic	[ɛ]	Pre-vocalic	[ʌ]
10	Initiating	[h]	Terminating	[s]

ousness of glottal stops are shown in Figure 1. The samples from the speech of children with cleft palate were apparently rated more severely on the average than were the samples from the speech of children with functional misarticulations. The mean difference is highly significant.[3] Figure 1, however, readily shows the overlap of the two distributions. Glottal stops apparently are not unique to, nor necessarily characteristic of, cleft palate speech.

The two distributions of scale values for defectiveness of articulation are shown in Figure 2. The cleft palate samples were on the average significantly[4] more severely defective than the functional misarticulation samples. The Pearson r measuring the relationship between defectiveness of articulation and conspicuousness of glottal stops for the 100 samples was .72. The relationship between the two measures

[3] $t = (4.00 - 2.34)/.332 = 5.00$; $t_{.01}(df = 98) = 2.58$

[4] $t = (4.65 - 3.44)/.332 = 3.65$; $t_{.05}(df = 98) = 2.58$

TABLE 2. The mean number of glottal stops substituted for each of several consonant types in 50 cleft palate (C.P.) speech samples and 50 functional misarticulation (F.M.) speech samples.

Consonant Types	*Mean Number of Glottal Stops* C.P.	F.M.
Plosives	43.5	18.8
Fricatives	6.7	2.6
Glides	1.7	2.0
Nasals	0.7	0.3
Semi-vowels	0.0	2.0

was significantly[5] higher for the functional misarticulation samples than for the cleft palate samples, the obtained r's for the two groups being .78 and .56, respectively.

Phonetic Transcriptions. Table 1 shows the 10 most common phonetic situations in which glottal stops occurred in the two sets of speech samples. These situations include only pre-vocalic intrusions or substitutions for voiceless consonants, the latter being almost entirely stop-plosives. About 75 per cent of the total observed glottal stops were in these two main categories. In the speech of the cleft palate speakers 50 per cent of the total number of glottal stops occurred as substitutions for consonants while 32 per cent of the total number of glottal stops of the speakers with functional misarticulations occurred as substitutions of consonants.

Table 2 compares the two groups of samples with respect to the mean number of glottal stops substituted for each of several consonant types. It is readily apparent that, among the consonants, glottal stops are most commonly substituted for stop-plosives. In

[5] The difference between the two r's was tested by employing the z transformation. $z = 2.06$; $z_{.05} = 1.96$

fact, 76 per cent of the glottal stop substitutions for consonants in the cleft palate samples and 70 per cent in the functional misarticulation samples were for the stop-plosives. There was not a single instance in either group of samples of the substitution of a glottal stop for [ʒ], [m], [ŋ], [l], or [r].

Discussion

The cleft palate speech samples were judged to have higher mean scale values for conspicuousness of glottal stops and for defectiveness of articulation than were the functional misarticulation samples. The former were also found to have a higher mean number of glottal stops. While these results do not fully support the implications of the statements in the literature to the effect that glottal stops are a unique characteristic of cleft palate speech, they do show that glottal stops are likely to be more prevalent and more conspicuous in the speech of cleft palate children than in the speech of children with functional misarticulations. It should be emphasized, however, that glottal stops were more characteristic of the speech patterns of some of the functional misarticulation samples than of some of the cleft palate samples.

As might be expected, the relationship between the number of glottal stops and the conspicuousness of glottal stops appears to be high. However, some of the samples which contained relatively few glottal stops were rated relatively high on conspicuousness of glottal stops. The question arises as to what factors contribute to the conspicuousness of glottal stops in a particular sample of speech. Apparently the conspicuousness is a function not only of the number of glottal stops per speech sample, but also of the phonetic situations in which the substitutions occur. The data suggest that glottal stops intruded adjacent to vowel environments are judged as less conspicuous than are substitutions of glottal stops for consonants.

It has been assumed in the past that the cleft palate speaker most commonly substituted the glottal stop for the velar plosives because of the anatomical and physiological deficiencies of the velum. It is somewhat surprising, therefore, to note the striking similarity between the two groups of samples with respect to glottal stop substitutions for consonants. It would appear that cleft palate speech differs from functionally misarticulated speech in degree rather than in kind with respect to the types of sounds for which glottal stops are substituted.

Spriestersbach, Darley and Rouse (*10*) and McWilliams (*6*) report that cleft palate speakers make more articulation errors on voiceless sounds than on their voiced cognates. It has been hypothesized that the voicing helps in compensating perceptually for the faulty sound production. The finding of the present study that glottal stops substituted for consonants involve primarily the voiceless consonants suggests another technique for dealing with difficult voiceless sounds. The explanation for the substitution pattern of the children with functional misarticulations is not so obvious. Glottal stops apparently are substituted for consonant sounds for reasons other than inadequate oral pressure. Since [t], [k] and [h] are not usually found to be difficult sounds for non-cleft speakers to produce, it might be

argued that the substitution of glottal stops for these sounds is the result of a general effort to speak more clearly. As a consequence, the glottal stop might appear in those environments which naturally lend themselves to such a substitution whether or not the correct sound is an especially difficult one for the speaker.

Finally, it should be recalled that there is a lower correlation between conspicuousness of glottal stops and defectiveness of articulation for the cleft palate samples than for the functional misarticulation samples. There is little doubt that the presence of hypernasality in the speech of children with cleft palates influences the judgments of defectiveness of the articulation of these samples (*9*). As a result, it would not appear reasonable to expect a single variable such as the glottal stop to have as high a relationship to the defectiveness of cleft palate speech as to that of the functionally misarticulated samples.

Summary

Recorded speech samples, each 30 seconds long, from the speech of 50 cleft palate children and 50 children with functional misarticulations were rated for defectiveness of articulation and also for conspicuousness of glottal stops. The cleft palate samples were rated more severely, on the average, than the functional misarticulation samples in both cases.

According to frequency counts based upon phonetic transcriptions, glottal stops occurred more frequently, on the average, in the cleft palate samples. For both groups of samples, most of the glottal stops occurred as pre-vocalic intrusions or substitutions for voiceless consonants, the latter being almost entirely stop-plosives. Although glottal stops were more conspicuous and more frequent in the cleft palate samples than in the functional misarticulation samples, there was considerable overlap of the two distributions for both the frequency and the severity measures.

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The Brain Stem Damage Syndrome: Speech And Psychological Factors

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Recent medical technique in the management of air pathways in acute head injuries is resulting in a new population of professional interest to those in psychological and speech therapy. In the past, individuals with serious head injuries in the area of the brain stem usually died within a few hours following the insult. The success of medical management of this population presents a challenge to other therapeutic disciplines. Some stem damage cases are rehabilitated successfully and some remain comatose or vegetative for months or even years with little hope of recovery.

This study originated as a result of several referrals of stem damage cases to the Speech Section of the Department of Psychology of the Veterans Administration Hospital at Albuquerque, New Mexico. The cases prior to referral were receiving medical attention with some physiotherapy. Five cases were studied.

The initial condition of patients who are not comatose or stuporous is often that of serious disorientation with the presence of retrograde amnesia and with demonstrable receptive and expressive aphasia. The aphasia may be assumed to be the result of concomitant hemisphere damage. Further, immediately post-trauma the patient is usually fed *via* tube and breathes through a cannula inserted into the trachea by the tracheostomy[1] surgical procedure.

The patients generally showed a wide variety of neurological signs and symptoms indicating diffuse, bilateral cerebral and brain stem damage including hemiplegia or quadriplegia. These violent environmental changes no doubt have profound psychological effects on the patient which influence the patient's physical and mental recovery.

Our culture seems to be increasingly prone to externally induced violent trauma. Further, as a consequence of aging and increased incidence of degenerative neurological diseases, internally induced trauma likewise will increase. Improved medical management, *e.g.*, tracheostomy, will very probably have the effect of generating even larger populations of viable brain stem disorders in the future.

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[1]In medical literature tracheo*stomy* and trache*otomy* are used synonymously. Tracheostomy is the process of surgically constructing a mouth, whereas tracheotomy signifies simply a cutting into the trachea. Tracheostomy will be employed throughout this paper as the preferred term.

Medical Management and Speech

One of the most serious problems posed by brain stem damage is maintaining respiration. The person with stem damage often becomes anoxic as the result of blockage of the airway, and only partially as a direct consequence of the primary lesion.

Tracheostomy. A specific therapy for the respiratory problem is tracheostomy. This form of surgical intervention has as its purpose facilitating respiration. Ulin and Rosomoff (*4*) have found tracheostomy to be effective with neurosurgical patients because concomitants of the cerebral injury, such as decreased gag reflex, aspiration of fluids, food and saliva, cause secretions to accumulate in the tracheo-bronchial tree. The tracheostomy provides both a low resistance airway access and a convenient means of aspiration. Nelson and Bowers (*3*) cite a lowered mortality among those with cerebral and medullary injuries when avoiding, *via* tracheostomy, low oxygen and high carbon dioxide concentration in the patient.

One result of tracheostomy is an unavoidable interference with normal speech performance. The insertion of a cannula into the trachea divides the air source necessary for articulation into two channels, one in which air is usually emitted through the low resistance cannula and the customary high resistance air route employed for normal articulation. The length of time the trachea is open varies from patient to patient. Since the air supply to the patient is of vital necessity, there is little flexibility in reestablishing the normal air pathway. The patients studied differed widely in their adaptation to the divided air supply. Some managed well on buccal air or on a reduced air supply; others did not and could manage only a whisper.

Deglutition. In the acute stage of brain stem injury there is usually the loss of the ability to take nourishment orally. Occasionally the loss of voluntary control of this function persisted beyond the acute phase of the disorder, in which case the patient took nourishment *via* intubation, either esophageally or endogastrically. In serious cases the taking of fluid and nourishment by tube continued for periods of weeks or months.

Patients varied considerably in their tolerance of a Levin tube for feeding, particularly of its presence while attempting articulation. The tube itself, more so than the cannula of the tracheostomy, is unsightly and caused difficulty in the adjustment of the patient's visitors. They tended to assume that such a drastic measure signified the patient as moribund. The tube also disturbed inexperienced therapists, at least on their initial contacts with the patient. To facilitate the adjustment of therapists to their task, and visitors to the patient, a coordinated guidance effort was necessary on the part of the medical-nursing staff and the psychological and speech therapists. Further, the longer the tube was used, the longer the patient was denied the normal oral exercise desirable for regaining vegetative and articulatory function. Team judgment was required to relieve the patient of the tube early enough to begin regaining function of the speech structures while offering no threat to the patient's dependency on proper fluid balance and nourishment.

Neurological Basis of Stem Damage

The neurological intricacies of the

brain stem are such that serious damage to the area on *a priori* grounds may be expected to produce cases of great variety. However, such does not seem to have been French's (2) experience with three cases strikingly similar in neurological and behavioral symptoms. These cases all exhibited hypokinesis, spasticity, mutism, loss of deglutition, impaired sphincteral control and loss of ability to respond adaptively. Significantly, the latter, French noted, could not be explained on the basis of lesions observed at autopsy. The lesions noted in the cortex, cerebral peduncles, basal ganglia and the ventral portion of the mesencephalon were sufficient to explain the spasticity but not the virtual loss of total behavior. The electroencephalograms of these cases French described as characterized by high-voltage, slow activity which could not be desynchronized by afferent stimuli.

On the basis of the clinical evidence French concludes that the cephalic portion of the brain stem, *i.e.*, the reticular formation, functions as an activator of subcortical and cortical structures and that subtotal injury to this system results in the 'stuporous' condition. Of great aid in developing an understanding of this region of the nervous system is Brodal's (1) monograph on the comparative neuroanatomy of the region.

At the present time the 'stuporous' cases remain a baffling problem. In French's experience some cases of this type expired in a matter of months. With a few, the damage is such that the patient emerges from the acute stage to a stabilized condition. One patient in this study, R. L., has a clinical appearance similar to French's description. R. L. suffered a brain stem trauma in September 1955 and is still technically in a stuporous state although additions have been made to his total behavior pattern. Stem damage cases with a less severe injury initially show a similar clinical picture but have a more rapid return of function.

The speech of the stem damage cases in this study was often partially or totally absent. The condition may be temporary or permanent. The presence of aphasia is difficult to establish by test in the more serious cases. However, its presence was assumed and they were treated as if aphasic. In other cases the degree of symbolic loss was determined through the usual testing procedures.

Psychological Manifestations

It is usually expected that patients with organic disorders of the central nervous system will show difficulty in re-integrating behavior post-traumatically. All of the patients in this study exhibited such difficulties, two of them to a very marked degree. Significant psychological manifestations appeared in several patients during their recovery process. In those cases in which symbolic behavior was re-established, gross psychological disturbances occurred which seemed to be directly connected with their recovery. The disturbances were abrupt, of short duration and similar to those of paranoid schizophrenia. They usually occurred shortly after the patients began to re-attach meaning to symbols.

Contrary to what is generally true of the functional schizophrenic reaction, these patients were not hostile to those with whom they had previously established a close therapeutic relationship. They did show paranoid tendencies toward other hospital per-

sonnel with whom they felt no close dependent relationship. In the case of G. B., for example, the patient was sufficiently paranoid at one time to justify transferring him to a neuropsychiatric hospital, but because of his ability to continue the healthy relationship with the therapists he was not transferred and soon the psychotic symptoms disappeared.

Patient C. H. progressed at about the same rate as G. B. but seemed to hit a plateau much sooner. Similarly, at the time his speech began to return he became paranoid and hostile. He physically expressed his hostility and suspiciousness to most of the people with whom he came in contact, with the exception of the therapist with whom he had close contact. His general attitude persisted for a period of four weeks when he again assumed his usual friendly and accepting attitude.

In these two cases, psychotic symptoms lasted for a period of three to six weeks. A study of larger numbers of stem damage patients would help to determine the precise mechanisms of these psychotic periods. It is possible that the patient's increasing awareness of his disability with all its ramifications may have precipitated the transient psychotic condition. Since there was no evidence of functional disturbances revealed in the psychiatric interviews, it is probable that the paranoid delusional behavior occurred as a direct result of neurological changes in the central nervous system.

Case Histories

Case 1, an Example of a Stuporous Case. R. L., an adult male, born March 16, 1935, was found under a bridge, unconscious. The lesions were apparently the result of being beaten or a fall into the ravine below the bridge. Intoxication was thought possible but was not revealed by the usual examination techniques. He had been seen at 11:30 p.m. of the prior evening. Testimony revealed that he had drunk three glasses of beer. He was found at 8:30 a.m. by men reporting for work. He fell about 40 feet. His watch was missing, and his wallet contained 48 cents but no bills. R. L. was a model son of a Spanish-American family. He drank very little, was in good health, had a lively sense of humor, read extensively and was quite religious. He wanted to be a career soldier. While in the army he neither gambled nor smoked. He was classified as a radar operator in service with the Air Corps. His rank was first class.

The accident (?) occurred September 10, 1955. He sustained a basal skull fracture, plus transverse fracture of the eighth rib. X ray revealed fracture of temporal bone. A sero-sanguineous discharge occurred from both ears, more bloody on the right. Both ears continued to drain. On September 14, he assumed an opisthotonic posture. September 16, R. L. was rigid in all four extremities. September 18, his ears stopped draining. Bilateral and frontal trephines were placed. No evidence was revealed of meningeal hemorrhage.

R. L. was unconscious for several weeks after the accident. The unconsciousness gradually took the form of stupor. Respiratory difficulties necessitated a tracheostomy which was done on September 12. Loss of deglutition required feeding by tube. Sphincteral control was absent. He made no recognizable efforts to communicate. Total mental abolition existed. Electroencephalograms showed typical synchronous characteristics.

At present, head and eyes deviate to the left. Corneal reflex is absent on the left. Bilateral hemiparesis is present, worse on the left than the right. Deep tendon reflexes of the left arm are hyperactive. No clonus was elicited and both plantar reflexes were extensor. All extremities were responsive to pain stimuli. Lumbar puncture revealed grossly bloody spinal fluid. Crude responses were made to touch, light and auditory stimuli. Yawn and cough reflexes were present. Diagnosis was laceration of the brain stem with prolonged unconsciousness

and decerebrate rigidity.

Although he continues incontinent of bowel and bladder, the Levin tube has been withdrawn and he is fed by the nursing staff. During feedings he makes smacking movements with jaw and tongue and often sighs. Mechanical stimulation of the oral region usually results in tongue and jaw movements. Intermittent vocalization under stimulation has been elicited. There is a general impression that R. L. is trying to communicate.

Efforts at speech and psychological therapy have involved a language stimulation program carried out by a joint operation between therapists and the female parent. Specific stimulation with controlled electric shock elicited mostly withdrawal efforts. Oral stimulation with tongue depressors and various forms of edibles failed to generate true voluntary activity. On yawning and other basic synergies, bilateral movements of the upper extremities occur, but no discrete voluntary act has been observed.

Present therapeutic efforts are exploring various stimulant drugs and their effects on R. L.'s response patterns. Since no successes were scored with attempts at speech integrations, efforts are now concentrated on producing voluntary movements with the less involved and the originally preferred right arm and hand.

Case 2. C. H., an adult male, was born October 27, 1930. Trauma occurred June 18, 1956, when C. H. was injured in a passenger car. Another person was driving. He was unconscious for several weeks. The reporting neurologist observed that the patient on initial examination was in a coma so profound it precluded neurological examination. A tracheostomy was performed to relieve respiratory difficulties. In addition to being incontinent of bowel and bladder, tubal feeding was necessitated. No effort was made to communicate with those about him even after the period of unconsciousness had passed. When first observed by the psychologist, C. H. had assumed a fetal position and would respond only to noxious stimuli. He would withdraw completely into stuporous states. All extremities were involved, with greater spasticity on the right than the left in both arms and legs. Near total mental abolition was observed. A fixed dilated left pupil is present. The diagnosis was quadriplegia, secondary to brain stem injury with partial decerebrate rigidity.

Gradually, by daily visits of the psychologist and speech therapist, he was maneuvered into responding to familiar objects and then to people. C. H. made a transition from a stuporous case with profound withdrawal, to a psychotic state of intense hostility and suspicion. He has learned to feed himself again, although he remains incontinent. C. H. has since made great social adjustment, enjoys attention of the other veterans and has shown some capacity for language relearning, being able to produce a vocabulary of a few words and articulate several basic sounds of American English voluntarily.

Case 3. G. B., an adult male, was born May 5, 1932. On September 16, 1956, he fell from a horse and the horse fell on him, resulting in a skull fracture. During the neurological examination G. B. was completely unconscious. The pupils were equal and fixed and very small. Frequent convulsive movements involving the right side of the face and the right arm were noted. The eyes deviated to the left. The left ear was clear, but the right eardrum showed blood in the middle ear. A complete areflexia of all extremities was present. There was no evidence of decerebrate rigidity at the time of examination. The final diagnosis was bilateral cortical contusion, intracerebral hematoma of left frontotemporal region and brain stem contusion.

A tracheostomy was performed September 21, 1956. He was unconscious for a month. On September 29, a decompression was done in the right temple region, the frontal bone resected and the dura opened. Cerebral spinal fluid in the right ventricle was quite bloody. A left hemiplegia was present, with left pupil dilated. Corneal and abdominal reflexes were absent on the left. The left side of the face perspired. The cremasteric reflex was absent on the right. Bilateral ankle clonus was present, and hyperactive deep tendon reflexes were noted on both sides. Recovery was noted beginning October 4, 1956. By October 12,

G. B. was using whispered speech. Phonation was established November 7. Aphasic symptoms were noted November 2, 1956. Little facial movement was present. The left arm showed some paresis. Subsequently, facial expression returned and 50 per cent normal function of arm and leg of the affected side. At the start of psychological and speech therapy confabulation was present, but transitory in nature. He has made an adequate adjustment and at last contact was self-sufficient.

Case 4. F. M., an adult male 33 years old, sustained a head injury resulting from a truck-auto collision, October 4, 1957, which was complicated by a fall from the hospital bed November 2, 1957. A tracheostomy was performed November 4, 1957. Posttraumatically, F. M. was restless, withdrawn and did not speak. His first spoken word occurred nine days after the accident. He did not respond to speech. He was described by the hospital staff as confused, disoriented, not totally rational and subject to hallucinations. During this period he was incontinent and required tubal feeding. The neurological examination revealed a partial decerebrate rigidity with no spasticity. Movement of left leg was diminished. Pupils and fundi were normal with no otorrhea or bruit. The neurological picture also included positive bilateral deep tendon reflexes, and positive right Babinski, with flaccidity of the right leg. The cranial nerves showed no involvement.

On later examination, although improved, general disorientation was noted with both receptive and expressive aphasic components. The cannula had been removed, and the tracheal incision had healed. His improvement continues.

Case 5. C. W., an adult male, was born May 30, 1892. He was struck by a truck while crossing the street October 7, 1957. After several weeks of unconsciousness he remained semi-comatose. A tracheostomy was performed to relieve respiratory difficulties. A problem of deglutition existed. He was unable to swallow until March 1958. Sphincteral control was lost. Sub-total mental abolition was observed.

Neurosurgery revealed grossly bloody spinal fluid from left ventricle. A subdural hematoma was present, and right trephination was enlarged for evacuation of hematoma. Severe brain laceration was noted under the hemotoma. Large amounts of right frontal cerebral tissue were removed at craniotomy. A dilated, fixed pupil was noted on the right, and a positive Babinski on the left, with a spastic left hemiplegia.

His responses to communicaiton subsequently indicated limited orientation; however, with the Levin tube and tracheostomy, his efforts at communication were only intermittently successful. While his responses to therapy seemed to improve, he developed a pulmonary abscess and died September 29, 1958. At post mortem on the same date the pathologist noted encephalomalacia of the cerebrum involving both frontal lobes and the occipital lobe of the right hemisphere and a sclerotic condition of unknown etiology at various levels in the brain stem.

Discussion

Since attempts at overt speech production require control of the breath stream, it is occasionally necessary to assist the patient in closing the cannula, mechanically, by covering it with sterile gauze, in those cases in which easy respiration has been restored and the presence of the tracheal opening only represents insurance for the patient against further respiratory complications. Usually, tracheostomies close themselves in a few weeks. During this interval, the speech therapists can get phonation started again by mechanical assistance of this kind. Further, patients with stem damage often show serious degrees of spastic involvement and, in many cases, cannot perform this service for themselves until much later in the rehabilitation program.

The patient must be evaluated at regular intervals in order that normal respiratory patterns can be re-instituted as soon as possible. There is at

present a tendency to be satisfied with maintaining respiration artificially without being alert to optimum times for transition to normal respiration.

The re-establishment of movement may employ the use of electrical stimulation and of foods of varied textures and consistencies. In most cases it is necessary to work at the basic synergies for developing voluntary movement, such as swallowing, control of the breath stream, voluntary movement of segments of the speech musculature and the initiation of phonation. Development of movement in the extremities is desirable. Such movement is useful in the presence of a profound language loss because it permits some degree of adaptive testing to determine the degree of loss of receptive language and of residual intelligence.

The above forms of therapeutic attention have as a direct aim the regaining of function, but they possess as well several psychological dimensions. Assuming intelligence is not lost altogether, the serious brain stem damage patient finds himself immobile, voiceless, fed tubally, often esophageally, with a trachea tube for respiration, with possibly a profound loss of expressive and receptive language and with primary disturbances in audition and vision. The stem damage case awakens to a nightmarish existence, the traumatic effects of which must be enormous. If he awakens to this abrupt and catastrophic environmental change and no specific efforts are immediately made to recover function, the individual may lapse into a vegetative state from which there is little likelihood of return.

Comprehensive treatment for the stem damage individual lies athwart virtually all therapeutic disciplines, thus requiring unusually close integration. Constant re-evaluation is required by medical doctors, nurses and psychologists to mark the earliest possible time for transition to physiotherapy, psychological and speech therapy. In addition, a stimulation program with language should be instituted as soon as consciousness is apparent. More than usual efforts must be made to employ highly motivated relatives of the patient to increase the amount of language stimulation.

The Veterans Administration Hospital at Albuquerque is presently exploring the neurological referrals to other Veterans Administration Hospitals for patients referred as brain stem damage cases. Reliable data on the incidence of brain stem damage are highly desirable. It appears to be the view of neurologists that in most cases of cerebral damage, brain stem damage of some degree is often a concomitant. In view of the reasonable expectation of greater numbers of brain stem damage cases, there is a need for a central location for collecting medical histories and therapy records.

That there are many cases of brain stem damage which are perplexing to medical and related therapeutic services seems to be borne out by J. D. French's[2] comments in a personal communication to the writers, concerning Case History 1, R. L.

It can be concluded that the rehabilitation of brain stem damage cases

[2]Letter dated November 18, 1957, is quoted with his permission: 'This unfortunate individual sounds very much like many we have seen and studied extensively and for which we can do little. While we should like to offer useful suggestions, we know of no valuable therapeutic procedure of use in these tragic problems.'

offers profound challenges to the psychological and speech therapists, whether showing the features of the stuporous case or less seriously involved orders of damage. Many brain stem damage cases gradually deteriorate and are terminated by death. What role psychological and speech stimulation might play in delaying or preventing this outcome would be profitable to explore. The partial rehabilitation of one stuporous case would add immeasurably to our knowledge of consciousness and its processes.

Responses to various kinds of drug stimulants is another line of research which might increase our knowledge of rehabilitating heretofore intractable cases or possibly accelerate rehabilitation in cases of fair to good prognosis.

It is possible that the psychological and speech rehabilitative fields can build therapeutic techniques for this growing population of neurological disorders and at the same time add to our knowledge of human behavior.

Since medical management and nonmedical rehabilitation meet at the points of air and fluid-nourishment control, it might be expected that psychological and language therapists would be consulted as soon as physical health was no longer in danger. Such does not seem to be the general practice. Partly, the explanation might be that therapists have not indicated an interest in cases of this kind or are reluctant to assume the graver therapeutic burden these cases represent. Finally, unless the medical doctors in charge are aware that interested therapists are ready for such referrals, it is unlikely referrals of these cases will be forthcoming.

Summary

Some of the objectives of this study were to determine: (1) the extent to which speech and hearing and psychological therapists have a therapeutic function with brain stem damaged individuals, (2) whether the therapists' services should be considered as regular or experimental and (3) the optimal time to introduce these services to the patients. Further, the study aimed at a tentative answer as to what profit to the therapist exists in experiences with the brain stem damaged group and what special preparation or techniques might be desirable. To these ends, a background analysis and descriptive two-year, day-to-day study was made of five patients medically diagnosed as having sustained brain stem damage. The study was sufficiently rewarding to the therapists and encouraging in terms of patient response to warrant a study of an adequate number of cases for appropriate sampling procedures. The complexity of the brain stem disorder limits attention to this problem to settings where the therapeutic climate permits a team approach of medical and nonmedical specialties. As in aphasia, referrals of brain stem damage cases should be made as early as feasible and treatment should begin as soon as there are no medical contra-indications.

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Private Practice Of Public School Therapists In Indiana

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Little has been written about private practice in speech and hearing therapy. One article (*3*) mentions the advantages and disadvantages of full-time private practice, but the private practice of public school therapists has never been reported. This study provides information concerning this phase of the profession.

For purposes of the study, private practice is considered therapy for which the public school therapist assumes full responsibility. The therapist determines the fee, locates a place to provide therapy and writes and distributes reports. It is not considered private practice if the child is referred to the therapist through an organization or clinic that maintains a record of the child, collects the fee, distributes reports or enrolls the child for therapy.

Indiana has two public school programs employing speech and hearing therapists or teachers of the deaf. One is the regular public school speech and hearing program in which 144 therapists are employed and the other is an oral, day school program for the hearing handicapped in which six teachers of the deaf are employed. In addition, there are three full-time and nine part-time individuals employed by the public schools but working in one of two college and university affiliated clinics. These individuals were not included in this study.

A two-page questionnaire was mailed to 150 public school therapists. One hundred and forty-four completed questionnaires were returned. An introductory statement informed the therapists their responses could remain anonymous if they did not choose to identify their questionnaire by name.

In summarizing the responses, some questions were tabulated for the entire population, both those not engaged in private practice and those engaged in private practice; and some questions were tabulated for only the latter group.

General Results

Ninety-eight therapists (68 per cent) indicated that they were not engaged in private practice and 46 therapists (32 per cent) indicated that they were engaged in private practice.[1] Of

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[1]These data were collected in the spring of 1958. In the spring of 1956, 127 speech and hearing therapists were employed in Indiana public schools (*5*) and a somewhat general survey in which 122 completed questionnaires were returned revealed that 34 therapists (28 per cent) were engaged in private practice, that their private case loads varied from one to six and that a total of 76 individuals were receiving private therapy.

the 98 therapists who were not engaged in private practice, seven indicated that they ordinarily have private cases but that they had none at the time of the survey.

Responses to the following four questions were tabulated for all therapists:

1. *How many years of experience as a speech and hearing therapist do you have?* Of the 98 therapists not engaged in private practice, the mean was five years with a range of from one-half to 22 years. One therapist did not respond. Of the 46 therapists engaged in private practice, the mean was 5.2 years with a range of from one-half to 20 years.

2. *Do you think speech and hearing therapists should engage in private practice?* The following are the responses of the 98 therapists not engaged in private practice:

Yes	90
No	4
Do not know	2
No answer	2
	98

All 46 therapists engaged in private practice answered this question 'yes.'

3. *Does your school permit you to engage in the private practice of speech and hearing therapy?* The following are the responses of the 98 therapists not engaged in private practice:

Yes	75
No	7*
Do not know	15
No answer	1
	98

Of the 46 therapists engaged in private practice, 45 indicated that their school systems allowed them to do private practice and one therapist indicated that she did not know.

In connection with this question, therapists were asked to list any restrictions their school system placed on the extent to which they could engage in private practice. The therapists indicated that they could *not* engage in private practice:

a. during school hours
b. if it interferes with therapist's efficiency in handling school therapy or performing other school duties
c. in a school building
d. with children seen by the therapist as part of her public school load
e. that involves more than 15 hours a week
f. unless permission is obtained from the school board
g. unless case is very urgent
h. during first year on job

4. *Besides working for the public schools, do you also provide therapy for individuals who come to a clinic which is sponsored by a private or voluntary agency? (For purposes of this questionnaire, this would not be considered private practice.)* Of the 98 therapists not engaged in private practice, 10 answered 'yes' and 88 answered 'no.' Of the 10 that responded 'yes,' the clinics, and the number of therapists working for such clinics, were sponsored by the following organizations:

Indianapolis Speech and Hearing Center	1
Psi Iota Xi Sorority	4
Society for Crippled Children and Adults	3
United Fund	1
Clinic sponsored by three organizations	1
	10

Of the 46 therapists engaged in private practice, one therapist said she worked for the Society for Crippled Children

*All these therapists worked for one of three city school systems.

and the other 45 answered the question 'no.'

The following five questions were tabulated only for the 46 therapists who were engaged in private practice:

1. *Are you a member of the American Speech and Hearing Association?* This question was answered 'yes' by 19 therapists, 'no' by 24 therapists, and was not answered by three therapists. Of the 19 that indicated they were members, only 15 were listed in the current ASHA membership directory[2] (2). Correspondence with the Executive Secretary of ASHA (1) revealed that of the remaining four, one was a member, one an 'inactive' member and two were not members.

2. *How many people do you see in the following age groups?*

Kindergarten or preschool (ages 0-5)	41
Elementary to high school (ages 6-17)	76
Adult (age 18 and above)	29
	146

3. *How many of your private cases are diagnosed as:*

Aphasia	10
Cerebral palsy	8
Cleft palate	6
Delayed speech	21
Foreign born	5
Functional articulation	59
Hearing	18
Stuttering	15
Other	4
	146

4. *In terms of the number of times a private patient is seen, please indicate how many patients you see:*

Irregularly	8
Once a week	92
Twice a week	35
Three times a week	2
Once every two weeks	9
	146

5. *Based on terms of a half-hour therapy session, what fee do you think ought to be charged a private patient with a functional articulation disorder?*

$1.25	1
1.50 – $2.00	6
2.00	5
2.00 – 3.00	3
2.50	10
2.50 – 3.50	2
3.00	5
3.00 – 5.00	5
Cannot tabulate	5
No answer	4
	46

The fees of some individuals receiving private therapy were paid by organizations and those specifically mentioned were Office of Vocational Rehabilitation, Psi Iota Xi Sorority, Veterans Administration, County Society for Crippled Children, and Catholic Schools.

Concerning the fee charged, 30 therapists indicated that it should be the same regardless of the diagnosis, 13 that it should vary, and three had no opinion.

The private load of the 46 therapists ranged from one to 13 with 42 therapists carrying five cases or less. Of the 146 individuals being seen in private practice, 11 were also being seen as part of the therapist's public school case load.[3]

[2]Of these 15 ASHA members, only one holds advanced certification in speech. According to the description of the American Speech and Hearing Association, Clinical Certification Section (2), a therapist holding basic certification is capable of performing general clinical duties under supervision and guidance and a therapist holding advanced certification has demonstrated an ability to conduct clinics, train others in the arts and skills of the profession and is a fully trained professional worker.

[3]Concerning this situation, the position of the ASHA Ethical Practice Committee is that '. . . there are times when it may be desirable for a speech therapist to give ad-

Fourteen therapists indicated that they worked with individuals referred by physicians, but only seven therapists were requested to send a written report to the doctor. One therapist who carried a private case load of eight indicated that she did not work with anyone unless there was a physician's referral.

Most therapists provided their services either in their own home or in the patient's home. However, 16 therapists reported that they used a public school building and others indicated that they worked in either a hospital, Vocational Rehabilitation office, YWCA, court house, city hall, or school administration building.

From a professional point of view, certain information has been gained from this study of private practice in Indiana which was thought to be of interest to professional workers regardless of their specific employment. Since this was not considered a comprehensive study of private practice, many questions remain unanswered; *i.e.*, in the absence of agency service such as in rural areas, should therapy on a private practice basis be given by public school therapists from some other area or should therapists be encouraged to go into private practice on a full-time basis? Should therapists working with this population be engaged in private practice or should the therapy be handled through a clinic organization? What criteria (age, ability to pay, response to stimulation, diagnosis, or other) should be used in selecting the case load? Should the private case load of public school therapists include children that help make up her public school load? It is hoped that additional surveys will give therapists direction in this important phase of our profession.

ditional therapy outside of school hours; there certainly are other times when this may be unnecessary. The situations are so extremely different that it would be unwise to rule as to the ethics involved in all such situations' (*4*). The Committee believes that the general principles stated in the Code are adequate to govern therapists whether they are working in public schools or engaged in private practice.

Summary

Of 150 speech and hearing therapists employed by Indiana public schools during the 1957-58 academic year, 144 answered a questionnaire which investigated the extent to which they were engaged in the private practice of speech and hearing therapy. Of this group, 68 per cent indicated that they did not engage in private therapy. The 32 per cent who performed private therapy carried case loads that ranged from one to 13 with most therapists carrying five cases or less. Information concerning the therapist's professional affiliation, age range and diagnoses of private cases, frequency of therapy sessions and recommended fees is reported.

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Clinical Notes

Esther L. Herbert, *Editor*

Analysis of Six Cases of Voluntary Mutism

The subjects of this analysis were six children ranging from five and one-half to ten years in age who were referred to the Institute of Logopedics because of mutism in all school situations.

All of the children were examined by physicians and were given audiological tests. In each case the physical examinations were negative and audiological testing indicated normal hearing; thus, cerebral palsy, aphasia, deafness or hearing losses were excluded as contributory factors in the mutisms. All of the cases were examined by clinical psychologists and pediatric psychiatrists except Case A, who was examined by a clinical psychologist only. The psychological findings are reported in the individual case descriptions.

The parents of the cases reported that the children used speech to a greater or less degree to communicate with members of the family in the home situation. The reports were verified by the psychiatrists or psychologists through interviews with the parents.

All cases were seen for two or three individual half-hour speech therapy periods weekly. Mothers of the cases observed a minimum of one training period each month and, unless circumstances interfered, were present in the training room for every period. The mothers carried on the home practice programs assigned, and classroom teachers, school nurses and principals were kept informed of the cases' total speech therapy activities.

The speech therapy was focused upon correction of the child's language and speech behavior, utilizing conventional speech training methods. No attempt was made to alleviate the mutism, *per se*. Training included the normalization of vegetative and respiratory reflexes subserving speech and development of and drill on incorrect or omitted sound phonemes in isolation, in syllables, single words and sentences. The training program of Case F, which is reported in detail, was representative of the articulation training of all the cases reported. In the cases exhibiting delayed speech, the articulation training was an integral part of the total language stimulation and development. The speech therapists avoided any attempts at psychotherapy or play therapy. The cases were not questioned directly or indirectly about their refusal to speak or their feelings about their teachers, classmates, daily living experiences or their families. Information regarding these feelings was often presented spontaneously as the speech therapy

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progressed and training in integration of newly-developed vocabulary or speech sounds in conversational and narrative speech was included in the speech therapy periods; no attempt was made to help the children interpret their feelings about their speech.

Case Studies.

Case A was a six-year-old boy who had completed kindergarten and half of his first grade year when seen for a speech examination. Subsequent psychological testing indicated no psychological disturbances or mental retardation. No speech responses were elicited during the speech examination period. He was scheduled immediately for three speech therapy periods weekly. Speech stimulation on common phrases and training on reinforcement and modification of vegetative and respiratory reflexes subserving speech were employed. During the sixth training period, Case A began speaking aloud, imitating the speech stimuli. Subsequent examination of his language behavior indicated severely delayed speech and a concomitant severe articulation defect. The vowels were distorted; the diphthongs and the consonants could not be produced, except for the bilabials in initial position in a few words. The child began speaking in the classroom and in all other situations immediately after his sixth speech therapy period. No reversion to mutism occurred. Case A's speech was corrected within 18 months of training and he was dismissed with normal speech.

Cases B and C were twin girls referred to the Institute of Logopedics at the ages of five and one-half years and after three and one-half months of kindergarten. Responses on all tests, including imitation of speech stimuli, were elicited, to the amazement of the school nurse who accompanied the twins. The speech examination findings revealed severely delayed language and speech development. Their vocabularies were limited to a few intelligible words. The consonants, except for initial [m], [p] and [b], could not be produced; vowels were distorted and the diphthongs could not be produced. Psychological testing indicated no psychological disturbances or mental retardation. Speech therapy twice a week was initiated. Imitated and volitional speech was elicited consistently in the speech therapy situation from the beginning. The mutism in the school classroom and playground situation disappeared gradually with more speech noted daily. By the end of three months of training, there were no signs of the former mutism. A concomitant considerable increase of vocabulary, length of response and improvement of articulation occurred. Speech training was terminated, prior to complete correction of the articulation, when the family moved out of town.

Case D was a six-year-old girl whose mutism had persisted throughout her kindergarten year of school. Speech responses were elicited during the speech examination. The findings indicated severely delayed language development, considering length of response, grammar and syntax, and articulation although her vocabulary was average for her age. The vowels were distorted, diphthongs were undeveloped and the bilabials were the only consonants which could be imitated or produced volitionally in words. Routine psychological testing indicated no mental retardation, but there were evidences of psychological disturbances. Psychiatric investigation showed a need for psychiatric treatment, which was subsequently carried out twice a week in coordination with the speech therapy program. Oral communication was elicited consistently from the beginning of both therapeutic programs. Within two months the mutism in all situations, including school, had been replaced by garrulousness and loud, disorderly talking throughout the school day, including recitations by classmates. The latter symptoms were subsequently alleviated and psychiatric treatment was concluded. Speech therapy, which had been interrupted by the parents' illnesses, is continuing; Case D's speech is now normal except for articulation errors on the sibilants and [l] and [r].

Case E was a six-year-old girl who had completed her kindergarten year at the time she was seen for a speech examination. No speech responses were elicited at that time. Psychological test findings in-

dicated normal intelligence but suggested emotional disturbances. A coordinated program of weekly psychiatric treatment and two speech therapy periods weekly were initiated. Case E began whispering responses to stimuli during the first speech therapy period. Subsequent examination indicated that her language and speech were normal except for a very mild articulation defect consisting of [s] for [ʃ], [z] for [ʒ], [ts] for [tʃ], and [dz] for [dʒ] substitutions, and occasional substitutions of [f] and [v] for [θ] and [ð], respectively. The articulation defect was corrected within a few weeks of training and speech therapy was discontinued. Psychiatric treatment was continued for several months following the conclusion of the speech therapy program but was subsequently discontinued because of the poor prognosis. The case was in the fourth grade at school and the mutism persisted, unalleviated by the foregoing therapeutic efforts.

Case F was a ten-year-old boy who had completed the fourth grade in school when referred to the Institute of Logopedics. His history showed mutism persisting through first and second grade, at which time he was referred to a pediatric clinic. The physical examination was negative and Case F was referred to a pediatric psychiatry clinic. Psychiatric treatment over a two-year period produced no apparent results; there was no alleviation of the mutism and a positive relationship with the psychotherapist was not established. Psychiatric treatment was then discontinued and Case F was referred to a speech clinic. Psychological testing had indicated an I.Q. of 138, exclusive of verbal items, and the school history disclosed that Case F's written assignments were completed accurately and rapidly. On school achievement tests he scored highest consistently in his classroom and frequently scored highest in school.

He was a courteous child, well-liked by his classmates who had developed a protective attitude toward him, explaining to the non-informed, when they pressed Case F for answers to questions, that he did not talk. He was an outstanding player on the class baseball team and his mutism had not permitted the slightest grunt or gasp upon his catching, throwing, hitting, or missing, a particularly fast, hard ball. Case F was cooperative, within the limits of his mutism, in school activities. He proceeded to the front of the room when called upon during experience sharing periods, or rose from his seat when called upon to read aloud, but simply stood, silent, until told to resume his seat. When sent to the school secretary's office for supplies he would stand silently as the secretary proffered possibly needed items and would accept, without speaking, only the supplies for which he had been sent.

In the speech examination, responses were elicited on all tests not requiring words or speech sounds. Poor volitional control of respiratory and palatopharyngeal valving patterns were seen on panting and blowing responses; lingual and labial movements lacked specificity and diadochokinetic rates were below average for his age. Case F was scheduled for two speech therapy periods weekly. In view of his superior intelligence, relatively advanced age and the failure of highly skilled psychiatrists to establish a positive relationship with Case F, the speech therapy program was particularly designed to avoid any semblance of a subjective approach or a psychotherapeutic situation. Simplified explanations, including drawings of the anatomy and physiology of speech processes, were integral parts of the speech therapy. The first speech therapy period included training on [h], [m], [p] and [b] in isolation and initial positions with vowels. Case F responded consistently to all stimuli, but all responses were whispered and no voicing occurred. Whispered responses continued as training progressed, until the eleventh training period at which voicing on three [bɑ] - [mɑ] contrast drill responses occurred. No voicing was produced again until the thirteenth training period during which the speech therapist asked whether Case F would not like to say the sounds and words aloud. Voicing occurred on the following responses during that period and no reversion to mutism or whispered responses occurred in the subsequent speech therapy periods. Examination of his language and speech behavior following the thirteenth training period re-

vealed no language retardation. There was a severe articulation defect to the point of seriously impaired intelligibility. The vowel [ɑ] was substituted for [a], and the [h], [hw], diphthongs, and consonants [f], [v], [k], [g], [θ] and [ð], [ʃ], [ʒ], [tʃ], [dʒ], [s], [z], [l] and [r] could not be produced. All final and medial consonants were omitted in words in conversational speech. Despite Case F's oral communication during the successive months of gradual improvement of articulation in the speech therapy periods, usually observed by his mother and occasionally others, the mutism persisted in the school situation. At the end of the twelfth month of speech therapy which had extended over a 21-month period, the correction of Case F's speech was almost complete. The articulation was consistently correct in drill and reading although occasional errors on consonant blends occurred in words in conversational and narrative speech, and Case F's speech volume was low and inflection slightly limited. At that time, however, parental pressure on Case F to talk at school increased since the parents reasoned, 'He can talk all right now.' By prearrangement with Case F and his classroom teacher, the speech therapist visited his classroom and explained to the students that Case F wished to demonstrate what he had accomplished during his absences from school. Case F then read aloud, to the astonishment of the school population, and conversed, for the first time with his classmates of six school years. The mutism did not recur and he was dismissed with normal speech.

In the five cases with speech defects of such severity as to interfere with successful oral communication, it is postulated that the speech defects, while not demonstrably the sole etiological factors, were causally related to the mutism. In each of the five cases amelioration of the mutism occurred as the speech therapy program progressed and intelligible oral communication was made possible. The very mild articulation defect of the sixth case interfered only slightly, if at all, with intelligibility of her speech. It is postulated that her speech defect was not of etiological significance in her mutism.

The foregoing findings are in disagreement with previous investigators, Adams, and Chapin and Corcoran, who concluded that psycho-therapeutic treatment was most effective in alleviating voluntary mutism. The findings further indicate that speech therapy techniques which do not include psychotherapy or play therapy seem advisable for cases with genuine language and speech defects.

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The Way of All Flesh

Dr. Frederick L. Darley has called our attention to a significant episode in Samuel Butler's *The Way of All Flesh* (Modern Library Edition, Random House, Inc., pp. 130-133) which he believes epitomizes the frustrating and frightening experiences of some speech defective children in an environment of uninformed and unsympathetic listeners. Characters in this episode are Ernest Pontifex, age four; his father, The Reverend Theobald Pontifex; and his mother, Christina. The events are related by the narrator, Overton. (*Editor*)

> I was there on a Sunday, and observed the rigour with which the young people were taught to observe the Sabbath. . . . . One treat only was allowed them—on Sunday evenings they might choose their own hymns.
>
> In the course of the evening they came into the drawing-room, and, as an especial treat, were to sing some of their hymns to me, instead of saying them, so that I might hear how nicely they sang. Ernest was to choose the first

hymn, and he chose one about some people who were to come to the sunset tree. I am no botanist, and do not know what kind of a tree a sunset tree is, but the words began, 'Come, come, come; come to the sunset tree, for the day is past and gone.' The tune was rather pretty and had taken Ernest's fancy, for he was unusually fond of music and had a sweet little child's voice which he liked using.

He was, however, very late in being able to sound a hard 'c' or 'k,' and, instead of saying 'Come,' he said, 'Tum, tum, tum.'

'Ernest,' said Theobald, from the arm-chair in front of the fire, where he was sitting with his hands folded before him, 'don't you think it would be very nice if you were to say "come" like other people, instead of "tum"?'

'I do say tum,' replied Ernest, meaning that he had said 'come.'

Theobald was always in a bad temper on Sunday evening. Whether it is that they are as much bored with the day as their neighbours, or whether they are tired, or whatever the cause may be, clergymen are seldom at their best on Sunday evening; I had already seen signs that evening that my host was cross, and was a little nervous at hearing Ernest say so promptly, 'I do say tum,' when his papa had said he did not say it as he should.

Theobald noticed the fact that he was being contradicted in a moment. He got up from his armchair and went to the piano.

'No, Ernest, you don't,' he said, 'you say nothing of the kind, you say "tum," not "come." Now say "come" after me, as I do.'

'Tum,' said Ernest, at once; 'is that better?' I have no doubt he thought it was, but it was not.

'Now, Ernest, you are not taking pains: you are not trying as you ought to do. It is high time you learned to say "come"; why, Joey can say "come," can't you, Joey?'

'Yeth, I can,' replied Joey, and he said something which was not far off 'come.'

'There, Ernest, do you hear that? There's no difficulty about it, nor shadow of difficulty. Now, take your own time, think about it, and say "come" after me.'

The boy remained silent a few seconds and then said 'tum' again.

I laughed, but Theobald turned to me impatiently and said, 'Please do not laugh, Overton; it will make the boy think it does not matter, and it matters a great deal'; then turning to Ernest he said, 'Now, Ernest, I will give you one more chance, and if you don't say "come," I shall know that you are self-willed and naughty.'

He looked very angry, and a shade came over Ernest's face, like that which comes upon the face of a puppy when it is being scolded without understanding why. The child saw well what was coming now, was frightened, and, of course, said 'tum' once more.

'Very well, Ernest,' said his father, catching him angrily by the shoulder. 'I have done my best to save you, but if you will have it so, you will,' and he lugged the little wretch, crying by anticipation, out of the room. A few minutes more and we could hear screams coming from the dining-room, across the hall which separated the drawing-room from the dining-room, and knew that poor Ernest was being beaten.

'I have sent him up to bed,' said Theobald, as he returned to the drawing-room, 'and now, Christina, I think we will have the servants in to prayers,' and he rang the bell for them, red-handed as he was.

Speech-Play Therapy

In recent years there has been a growing realization among speech therapists that one cannot easily separate the thoughts, feelings, emotions of the individual from his speech difficulties; that often improved speech follows the working through of the individual's emotional difficulties. The writers have found several techniques useful in working with children with emotional difficulties and concomitant speech problems. Certainly techniques cannot be separated from the philosophy, theory and maturity of the individual employing them, but nevertheless there appear to be occasions when the judicial use of a particular technique may serve as a catalyst in

moving the therapeutic process further in a given direction.

In working with individuals with speech problems, the use of non-verbal communication appears to be of considerable significance, both in terms of the therapist's communication to the patient, and the patient's to the therapist. Recently the senior author has had moderate success while using an ordinary infant's bottle and nipple with children in speech therapy groups. One group consisted of three children, all four years of age. The one girl member had normal speech until she was two years old. At that time, following the birth of a sister, her speech became unintelligible and she developed severe stuttering symptoms with many secondary reactions. One boy was extremely shy and on most occasions refused to talk at all. His speech when he did talk was completely unintelligible to others. (The therapist could not understand more than two consecutive words.) The other boy in the group, small for his age, very aggressive and destructive, also had unintelligible speech. He had two principal ways of relating to the therapist: by literally striking out when displeased and by becoming overly demonstrative of affection when pleased. It should be stated that, with all three children, parents had reported that their speech had either not improved at all or had grown worse during the year and a half before therapy. When this group was first formed, there was almost continuous fighting and teasing among the children. Any attempt on the part of the therapist to bring the group into activity would usually result in withdrawal by one of the children or marked aggression by the group towards the therapist.

About four months after the group was formed, several plastic baby bottles were introduced into the meetings. There was an immediate response. The very aggressive little boy stood wide eyed while the therapist pretended to fill the bottle with milk and suggested that he permit her to feed him. He responded by asking for more. At this point, the other children began fighting for the bottles and insisted that the therapist feed them, too. When the therapist stated that she had enough milk for all and that they needn't fight, they became content and waited while the therapist held each of them in her arms and rocked them and pretended to feed them. Following this play, the withdrawn boy spoke with speech well within normal four-year-old limits. The other children responded with infant-like coos and babbling. Since that time the therapist has noted a remarkable ease of communication within the group. The children have all seemed more contented, and there has been none of the usual aggressiveness.

The same approach has been used with a group of four boys, eight- and nine-year-olds. All had articulation problems, one mild, two moderate, one severe. In addition to their speech difficulties, all four boys had failed one grade in school, though all were of normal intelligence as indicated by their scores on the Stanford-Binet Test. Without describing these boys in detail, it may be noted that all had been characterized by their parents as 'nervous, shy and afraid' in their normal activities. In addition, three parents had remarked that their sons would not leave them alone even for very short periods of time. The bottles, filled with water, were introduced approximately two months

after the group had been formed, the therapist remarking that the boys might use the bottles in any way they liked. Three accepted the bottles immediately and have asked for them on each occasion. The fourth boy, who had never really become a part of the group, refused to participate and even seemed frightened when it was suggested that perhaps he, too, would like to be fed. Since the introduction of the bottles in the group, a general relaxation in terms of the things they previously had been afraid about (fears of 'getting dirty,' leaving mothers, getting a disease) and a concomitant improvement in speech have been noted in all of the boys.

It has also been found that the use of drawing and writing often facilitates the expression of feelings when verbal areas of communication are blocked. Perhaps this can best be illustrated with two examples:

A nine-year-old boy, who had a cleft palate and cleft lip with facial disfigurement, had articulation and voice problems. At one point in therapy, when he had been asked to describe his feelings in a situation, he said, 'No, I can't talk, I hate to talk.' The therapist asked him if he could perhaps better describe his feelings by drawing about them. He drew a picture of himself shooting another boy. When he was asked why he wanted to shoot the other boy, he stated that he couldn't say why, but after some hesitation said that he could write it. He then wrote, 'Called me (obscene name).' Afterward, he spontaneously drew a picture of the other boy dead. When later asked what he would do when he saw the boy again, whether he would want to shoot him, he replied with surprise that he wouldn't want to because he already had killed him. The incident appeared to be a key to a large part of his problem; apparently the other boy's remark served as a focal point for the feeling that he had done something wrong with his mouth. Following this incident in therapy, an improvement was noted in his hoarse voice quality.

An eight-year-old girl came to the clinic because of a severe articulation problem. She had been described by her mother and teachers as very tense and shy and needing a great deal of praise and approval. During the first three months of therapy she did not speak spontaneously at any time. In the following months she became more free in her speech with the therapist. On one occasion when it was necessary for the therapist to be away for two weeks, the girl returned to her previous extreme shyness and withdrawal. All attempts to get her to elaborate on her feelings met with a blank, resigned expression. When it was suggested that perhaps she could better express her feelings by writing them on paper, she wrote, 'I hate you.' Following this expression, she was able to elaborate on her frustration at the therapist's leaving and returned to her previous level of spontaneity.

It would seem that there are occasions in therapy when the use of vocal language has special significance in itself (as with individuals with speech problems) which interferes with adequate communication. At such times a return to more primitive or different means of communication may result in a more adequate flow of thoughts and feelings. This in turn may have a salutary effect on the process of therapy.

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Binaural Speech Therapy

Perhaps nothing is so difficult to see as the obvious. This speech therapist has finally made the profound observation that all of his patients have two ears. This perception might hardly merit a softly yodelled Eureka were it not that its implications have improved his speech therapy remarkably, a process which was doubtless overdue. May this little paper be viewed as a penance for his myopia.

Speech therapy has as its goal the modification of communicative deviancy in the direction of normal utterance. It implies normal standards, the correction of error, the elimination of abnormality. It constantly requires comparative judgments. Diagnosis defines the type and degree of deviation; prognosis expresses the potential for decrease in deviation; therapy is devoted to its reduction or elimination. If, then, the business of the speech therapist constantly demands comparisons of deviancy with normality, it is indeed fortunate that our cases seem expressly designed to facilitate such comparisons. They have two ears! One of these ears can obviously be used for the normal standard and the other for the deviation. One of them can be used for hearing the therapist and the other for hearing the individual's own utterance. It is this therapist's reluctant confession that until three years ago he had never exploited this happy arrangement.

Speech therapists deal with behavior which, operating as a servo-system, is governed by automatic controls. There are feedback loops involving air conduction, bone conduction, tactile contacts and proprioception. These seem to be arranged in an hierarchic order of dominance, but they all play a part in determining whether speech will be normal or abnormal. Any automatic control system depends upon the feedback or return flow of information for its effective functioning. The output must be scanned and constantly compared against a standard so that error can be minimized. We suspect that individuals with speech defects probably need, more than anything else, a more effective comparator. If only they could come to scrutinize their speech output against the standards demanded by the therapist and the culture so that the *degree* of deviation could be made vivid, then correction of error should move swiftly. It is our thesis that training in differential binaural stimulation is a most efficient means for building such a comparator. Our cases have two ears.

Most of us in our therapy demand that our cases compare two memories: the memory of how their speech should be spoken with the memory of how they spoke it. But it is difficult indeed to measure two items point for point when both are gone. Did I say thoup or soup? How nasal was my vowel? How nonfluent was I? Piano tuners know better. They tap two notes almost simultaneously if they want to know whether one is sour. Some of us have indeed done a little reading or speaking in unison, and the recent exploration of the echo-speech or shadowing techniques has demonstrated our dim awareness that we need better means of error discrimination than those we have been using for years. But even these new techniques fail to exploit the two receptors on each side of the head which provide the ideal apparatus for such discrimination.

Here are a few of the ways in which we at Western Michigan University have been exploiting the fact

that we have two ears. In articulation therapy, using two microphones each of which feeds into a single ear of the case, and with one being used by the therapist and the other by the subject, we are able to stimulate him simultaneously with both the correct and incorrect sound or word or sentence. By controlling the amplifiers we can stress the therapist's stimulation or the case's own utterance. We can create a binaural flutter effect in which discrepancies are almost intolerable and which motivate the subject to alter his output so as to bring both auditory experiences into harmony. We have found that certain rates of wobble stimulation are more effective than others. We find that the subject can alternately attend to one or the other of prolonged stimuli and make his corrective adjustments much more easily than when he listens to the therapist and then tries to achieve the desired sound. We can even change ears on him by a simple switching procedure, an experience which often creates immediate modification. When you think you are hearing your own voice in your right ear and suddenly instead the therapist's voice is there, the stereotypy of habit gets jolted. We must get variation before we can get approximation. It is also possible to use the arrangement to facilitate echo-speech or shadowing, and foreign speakers have been able to duplicate inflections as well as rhythms and sounds to a degree which at times is startling.

In voice disorders, the same techniques can be used most effectively. We usually begin by blending our own voice to match that of the client, speaking in unison with him and repeating the sounds or words or sentences several times. Then we gradually modify our stimulation to introduce variations in the direction of the desired pitch or voice quality. If this is done skillfully, the subject will follow us by slight graduations until he is using a normal voice. The sequence of therapy is, after all, motivation, discrimination, variation, approximation and finally stabilization.

In stuttering, it is possible to stutter in unison with the stutterer, duplicating the beginning of his blockings but then showing him how he can modify them in the direction of lessened abnormality and fluency. It is also possible to feed into one ear the therapist's stuttering which the stutterer must resist as they speak in unison or in echo speech. We also find that a shifting of ears at the moment of stuttering often produces normal speech. We are just at the beginning of a new era of therapy and the possibilities inherent in the alteration of feedback experiences are many.

But you may object that you have no double amplifiers or microphones or binaural head sets. If the case will cup his hands to provide a channel from his mouth to one ear, or if he will use a Van Riper speech shoe or some other type of echo chamber, and if you as a therapist will funnel your hands and speak into his other ear, you will find that you can use most of the techniques we have described above. And invent many more. Much research needs to be done in this area and some of it is now in process but we need not wait for it to demonstrate the obvious. We have two ears.

CHARLES VAN RIPER
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Use Of Meprobamate As An Adjunct To Stuttering Therapy

Louise R. Kent

Dean E. Williams

With the introduction and expanding use of tranquilizing drugs, the possibility arises that one or more of them may prove to be a helpful adjunct to stuttering therapy. As yet little systematic research has been reported on this problem (*1, 4*). The purpose of the present study was to measure the effect, if any, of meprobamate (Miltown) on the progress of a therapy program for adults who stutter.[1] This drug was chosen because of the considerable evidence in the medical literature which indicates that meprobamate is the drug of choice for ambulatory, non-institutionalized subjects who are expected to continue their normal daily routines while taking a tranquilizer.

The desired function of meprobamate in this study was to reduce the 'edge' of anxiety which seems to be present with most individuals who stutter. It is believed that this anxiety state is capable of delaying for varying periods of time the initial attempt of the person who stutters to modify his speech behavior. Once the individual begins to modify or change his manner of speaking, the changes he makes tend to facilitate further changes. Hence, the hypothesis to be tested was that the administration of meprobamate to subjects participating in a stuttering therapy program will bring about a reduction in anxiety and hence will facilitate positive changes in their speech behavior.

Method

Subjects. The subjects used in this experiment were 15 students (13 males and two females) at Indiana University who were attending the Speech and Hearing Clinic for stuttering therapy. The ages of the subjects ranged from 18 to 29 years, with 11 falling in the 18 to 19 year range.

Procedure. The subjects were divided, seven in the control and eight in the experimental group, on the basis of the following variables: (a) sex, (b) amount of previous therapy, (c) mean severity rating of stuttering obtained from the ratings of six trained judges and (d) profiles from the Minnesota Multiphasic Personality Inventory. It should be clear that only a rough match of the above factors was possible. The seven subjects in the control group were all males; whereas, the subjects in the experi-

[1]This research was supported by a grant from the Wallace Laboratories, Inc., New Brunswick, N. J. The meprobamate (Miltown) was supplied by this laboratory.

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mental group consisted of six males and two females.[2] For an experimental period of 99 days meprobamate and placebo were administered to the experimental and control groups respectively. All subjects were told that they were receiving the drug. Neither the experimenters nor the clinicians associated with the subjects in therapy knew the individual composition of the two groups until all post-experimental period testing had been completed.

The subjects were told that, with their permission, they would serve in an experiment designed to determine whether or not a new drug would facilitate their progress in therapy. It was explained that the principal effect of the drug as reported in the medical literature is to reduce tension and that research indicates that the drug would not interfere with their usual activities. The subjects were instructed to take three tablets per day, one after each meal.

The meprobamate was supplied in tablet form of 400 milligrams each. The placebo tablets were identical in appearance to the drug. An assistant, who in no way participated in the therapy or the testing of the subjects, dispensed the tablets to the subjects each week. Whenever holidays were imminent, the number of tablets was increased in order to maintain the desired dosage regimen until classes resumed.

The University Student Health Center was supplied a list of the subjects serving in the experiment which identified those individuals receiving placebo and those receiving meprobamate.[3]

Individual therapy was available to each subject for one hour per week, usually in two half-hour sessions. Group meetings were held also for one hour, twice a week. The subjects in the two groups were distributed proportionately among six therapists for individual therapy. Each therapist was free to conduct his or her sessions as considered most advantageous to the subjects. In general, however, each followed the theoretical position as expressed by Williams (*6*).

Within two weeks prior to the initiation of drug administration and within two weeks after the cessation of drug administration, the measures described below were obtained from each subject:

1. Ratings of stuttering severity. The subjects were asked several days in advance to prepare a three-minute speech to be given before a group. Six trained speech therapists rated these performances on the basis of a seven-point scale of severity (*3*). From these ratings a mean score was obtained for each subject before and after the experimental period.

2. Speech interruptions during oral reading. Each subject was asked to read aloud a 180-word passage (*3*) three times in the presence of one of the experimenters. The occurrences of speech interruptions other than pauses were recorded by the experimenter on mimeographed copies of the passage. The total number of interruptions on

[2]At the time the subjects were divided into groups, there were three female subjects. By chance these three females were distributed two in the experimental and one in the control group. After the experimental period had begun, the one female in the control group was dropped from the experiment because she began psychotherapy in the University Psychological Clinic.

[3]The authors are indebted to Dr. Eldred F. Hardtke, Clinical Psychiatrist, Indiana University Psychological Clinic, for prescribing and regulating the dosage of the drug.

three successive readings was the dependent variable used in this analysis. Scores were obtained for each subject before and after the experimental period.

3. MMPI. The group form of the MMPI was administered to the subjects. Only the nine standard clinical scales were scored. An attempt was made to place those subjects with most similar codings on the pre-experimental period performance in different groups.

4. Recorded interviews. A sample of the speech of each subject was tape-recorded. In all instances the subjects knew that their speech was being recorded. Typed transcriptions of the speech samples were obtained which the experimenters considered to be accurately descriptive of the actual speech behavior. The speech interruptions of the subjects were categorized and tabulated according to the following types of non-fluencies: interjections, syllable repetitions, word repetitions, phrase repetitions, revisions, incomplete phrases, broken words and prolongations (*2*). The average number of each type of interruption per 100 words of recorded speech was computed on each speech sample. Then, the average number of all types of interruptions per 100 words spoken was determined. This analysis was performed separately on the speech samples obtained before and after the experimental period.

5. Clinical judgments. After the post-experimental period testing had been completed, the experimenters made clinical judgments as to whether each subject had made 'much' 'some' or 'no' observable improvement during the course of the experimental period. This was done (a) to determine whether or not the clinical judgments would discriminate between the two groups and (b) to compare the clinical judgments with the results of the more objective measures. Clinical judgments were again made by the experimenters four months after the end of the experimental period.

Results

The results are analyzed in terms of differences between the groups in amount of change between pre- and post-experimental testing on the measures described above. The Mann-Whitney *U* test (*5*) was used to test the significance of the differences between the groups. In certain instances, the pre-experimental period data are compared with the post-experimental data without regard to groups in order to evaluate changes made by the subjects as a whole over the course of the experimental period. The Wilcoxon matched-pairs signed-ranks test (*5*) was used in this analysis.[4]

1. Ratings of stuttering severity. The difference between the two groups on this measure is not statistically significant; and, for the subjects taken as a whole without regard to groups, the ratings of stuttering severity do not offer evidence of either a positive or negative change from the pre- to post-experimental period rating sessions.

2. Speech interruptions during oral reading. The differences in the before and after measures on this task do not statistically differentiate between the two groups; nor does this measure yield results which indicate a statistically significant change in the performances of the subjects as a whole over the course of the experimental period.

[4]On all tests of significance, the critical level is $P < .05$.

3. MMPI. Changes made on this measure from the first to the second testing were evaluated in terms of *T*-score point changes on each scale. A change toward the mean of 50 was considered a positive change while a change away from the mean was considered a negative change. In this way a difference score was obtained for each subject on each scale. It was found that, of the difference scores obtained on seven scales, all except the Hs and Si have a high probability of occurring by chance. On the Hs scale the experimental group tended toward more negative changes than the control group. On the Si scale the experimental group tended toward more positive changes than the control group.

4. Recorded interviews. The number of words spoken per minute on the recorded speech samples were computed for the subjects both before and after the experimental period. The experimental group tended to reduce the number of words spoken per minute more than did the control group although this difference is not statistically significant. The only significant difference found between the two groups on the relative frequency of eight different types of interruptions was on Word Repetitions. The control group significantly increased the number of Word Repetitions as compared to the experimental group. In comparing the pre- and post-experimental period performances of the subjects as a whole without regard to groups, the only statistically significant change for the seven comparisons evaluated is in the reduction of the relative frequency of Prolongations.[5]

5. Clinical improvement. On the basis of many contacts with the subjects during the course of the experimental period, the experimenters made an evaluation of 'amount of clinical improvement' for each subject. In both the experimental and control groups three subjects were rated as 'much' improved. The control group contained one subject who demonstrated 'some' improvement while the experimental group contained four. Three subjects in the control group and one in the experimental showed 'no' improvement. There does not appear to be a relationship between the degree of clinical improvement made by the subjects and the therapists assigned to the subjects for individual therapy.

Approximately four months after the end of the experimental period all subjects were interviewed by the experimenters. Evaluations of clinical improvement were again made for each subject by comparing his present speech behavior with his performance at the beginning of the experiment. At this time five control subjects and three experimental subjects were rated as 'much' improved; one control subject and five experimental subjects demonstrated 'some' improvement; and one control subject and no experimental subjects showed 'no' improvement. Over the four-month period no unfavorable changes in the speech behavior of the subjects were observed.

Attendance at therapy sessions. The group therapy meetings were attended regularly by all subjects with the exception of two in the control group. The individual therapy sessions were attended regularly by all but four subjects (none of these included

[5] In the category of Broken Words, it was impossible to compute a probability value for the difference obtained because the *N* was too small to apply the test used after tied scores were omitted.

the two mentioned above), three in the control and one in the experimental group. It is clear that the experimental subjects tended to be more regular in attendance than did the control subjects.

Regularity of tablet intake. On the basis of the subjects' own reports, subjects receiving placebo were as regular in tablet intake as those receiving meprobamate.

Reported drug effects. A few subjects in both groups reported initial drowsiness; no other side-effects were noted. At the end of the experimental period the subjects were asked what effect, if any, they felt the drug had on them. In answering this question, the control subjects attributed as many effects to the tablets as did the experimental subjects. The subjects tended to report, in general, 'reduction in tension.'

Self ratings of improvement. At the end of the experimental period the subjects were asked to rate their progress in therapy on a scale where 0 indicates status at beginning of therapy; +1, +2, +3, degrees of positive change and −1, −2, −3, degrees of negative change. The subjects used only the +1 and +2 categories. In the control group six subjects rated themselves +1 while only one subject rated himself +2; in the experimental group four subjects rated themselves +1 and four +2.

Discussion

In this study, the scores obtained from oral reading, the MMPI changes, the analysis of the recorded interviews as to kind and relative frequency of speech interruptions, and the number of words per minute are in agreement in that they do not discriminate between the two groups; nor do they reveal a significant change for the subjects as a whole regardless of groups. The clinical pictures presented at the end of the experimental period, however, differed from those presented initially. Six of the 15 subjects were judged to have shown a marked favorable change in speech behavior (or improvement) and five were considered to have made a moderately favorable change. Only four subjects failed to demonstrate a positive change in speech behavior. It is possible that the quantitative measures employed here are quite valid in and of themselves but that they simply are not related in a consistent direction to the general picture of behavior which the therapist evaluates clinically as 'improvement.'

It is obvious that 'improvement' can be defined only with reference to the ways a person changes his behavior. Hence, the quantitative measures represent specific behavioral changes, not an entity labeled 'improvement.' Each measure used in this study was assumed to have a positive and a negative direction; the decision as to which direction of change represents 'improvement' naturally involved the making of a value judgment. For example, if the subject were to reduce the frequency of speech interruptions, this reduction was to be evaluated as 'improvement.' Observations made during this study cast doubt upon the validity of this kind of assumption. 'Improvement' for one individual may involve changes that are opposite in direction to changes which may constitute 'improvement' for another individual. For example, one individual in this study decreased the frequency of speech interruptions and another one increased the frequency of his inter-

ruptions; yet both individuals were judged clinically as 'much' improved. The subject who increased the non-fluencies in her speech initially spoke quite hesitantly, and with an accompanying eye blink; terminally, she spoke with more non-fluencies but in a manner which was spontaneous and relaxed.

Other similar examples could be cited. Certain subjects increased speaking rate, others decreased it; some subjects increased the frequency of specific *types* of non-fluencies, others decreased them; yet, all were judged to have 'improved.' These observations are not surprising when one views the highly individual nature of stuttering behavior. Clinical improvement cannot reasonably be expected to result in similar behavioral changes for all persons who stutter. Therefore, the procedure of combining the individual data into group data may serve to obscure the nature of the very behavior which we seek to examine.

Summary and Conclusions

The purpose of the present study was to measure the effect, if any, of meprobamate (Miltown) on the progress of a therapy program for adults who stutter.

Fifteen adult subjects participated in the study, with eight in the experimental and seven in the control group. For an experimental period of 99 days meprobamate and placebo were administered to the experimental and control groups, respectively. Changes in speech behavior before and after the therapy period were measured both quantitatively and qualitatively. The results of the measures led to the following conclusions:

1. There was no significant difference in tested performances between the control (placebo) and experimental (meprobamate) groups. Therefore, the hypothesis that the administration of meprobamate to the subjects would facilitate positive changes in their speech behavior is rejected.

2. There was no significant change in tested performances for the subjects as a whole without regard to groups. Hence, the tested performances yield no evidence of 'improvement' for the subjects as a whole.

3. Individual clinical judgments indicate that there were subjects in both groups who made varying degrees of favorable changes during the experimental period even though these changes were not reflected in the group measurements of improvement.

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Book Reviews

Ernest H. Henrikson, *Editor*

JOHNSON, WENDELL, BROWN, SPENCER F., CURTIS, JAMES F., EDNEY, CLARENCE W., and KEASTER, JACQUELINE, *Speech Handicapped School Children*. New York: Harper and Brothers, 1956. Pp. 567. $4.50.

Since the original publication in 1948 and its revision in 1956, *Speech Handicapped School Children* has made a place for itself within the ready grasp of many people concerned with the child who needs special help. The book is clearly stated, easily understood, and is scholarly, dignified and supportably scientific. It is prepared for use by both classroom teachers and speech therapists, and its nine chapters by the five separate authors are carefully edited to give expert treatment of the major aspects of the field.

In the first chapter, Johnson strikes directly at the core of definition and classification of speech disorders and their correction. One senses immediately the writer's profound mastery of both the subject and the language with which to explain it. Not only are professional complexities simplified to well organized and clear exposition, but this simple presentation is woven into the development of the book's purpose: to help parents, teachers, administrators, speech therapists and other professional people work together understandingly and effectively in their team concern for the child handicapped in speech. The philosophy and objectives of the writers are kept in focus throughout by case studies freely but not burdensomely included.

In consideration of the clinical point of view presented in Chapter 2 as well as elsewhere in the text, some rather interesting statements are made: 'Speech correction is emerging from its cubicle to become integrated with the general school program . . . in speech training and speech correction, a goal is good speech that is habitual, automatic and spontaneous . . . Oral reading of stories and poetry is frequently used with good results.' These statements reflect the trend today of calling on the speech therapist to assume responsibility for general speech instruction especially in the elementary grades. While the text approaches therapy through scientific and clinical technique, it also gives suggestions for training in the broader application of speech and communicative arts.

While discussing the chapters written by Johnson as well as the general editorial policy of the book, it is appropriate to comment on Chapter 5, 'Stuttering.' The remedial training section of the chapter is more clearly related to the purposes of the text, and, in this reviewer's judgment, is indisputably wise advice to those for whom the text is written. On the other hand, to select so much supportive evidence in the presentation of the author's theory of the etiology of stuttering seems inconsistent with the design of the book. Beginning students may tend to 'bog down' in this chapter although this material is, of course, helpful and essential to the professional reader.

The two chapters by Curtis on disorders of articulation and disorders of voice are very succinct and accurate. The emphasis in the articulation chapter is on arriving at good therapeutic measures rather than on diagnosis and description alone. Even students with no phonetic background can handle this chapter. The chapter on voice, however, needs to be amplified by the instructor in order for students to understand the information on acoustics. (The entire text yields itself very nicely as a point of reference for supplementary lectures by the instructor.) The therapy procedure for voice retraining is basically the approach used by teachers of speech and communicative arts. Rightfully, the text avoids excursions into complex psychological counseling.

The chapters on retarded speech development and cleft palate and cerebral palsy are written by Brown. If the text is revised, consideration should be given to moving the chapter on retarded speech development to precede the chapter on disorders of

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articulation. Normal speech development and the causes of generally delayed speech are, from a teaching standpoint, of critical relationship. The text excellently balances the description of the organic disorders of cleft palate and cerebral palsy with the suggestions for therapy.

Keaster presents a very clear-cut statement of the therapy for children with impaired hearing while the chapter on public school remedial speech programs by Edney underscores obvious inter-relationships between classroom teachers, general speech teachers and speech therapists. Retraining procedures which can be used to bring the feelings and behavior of the child into focus are discussed and this chapter seems to bring the text into a full circle so that it ends where it began with the general behavior viewpoint of the 'Clinical Point of View in Education.'

The appendix has several sections devoted to student projects, term papers and demonstrations which are of considerable value. It also carries a very complete list of agencies and organizations with which students should be familiar, a section on phonetics, estimating natural pitch level, and the very famous 'Open Letter to the Mother of a "Stuttering" Child.'

If you are a classroom teacher, a beginning student of speech therapy or a member of one of the many professions concerned with the care of speech handicapped school children, you should own a copy of this book.

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KAISER, L. (ed.), *Manual of Phonetics*. Amsterdam, Holland: North-Holland Publishing Co., 1957. Pp. 460. $10.00.

'The *Manual of Phonetics* tries to cover the whole field of phonetics, the science dealing with human speech.' So reads the opening sentence on the inside flap of the paper cover of this book. This same source contains the information that 30 authors representing 14 nations tried 'to bring the very best special knowledge in a general and readable form' in 28 chapters covering about 500 pages 'to be read by engineers and linguists, by medical doctors and psychologists, by teachers and artists.' The editor, L. Kaiser, is Secretary of the Permanent Council for the International Congresses of Phonetic Sciences.

The book is divided into six parts. Part A covers the history of phonetics in two chapters, one reviewing the phonetic concepts from primitive times to the present and the other tracing briefly (nine pages) the technical development of instrumentation for the study of phonetics. The 'basal sciences of phonetics' are treated in four chapters in Part B. The first deals with morphology and physiology, the second with auditory considerations, the third with psychology and the last with statistical methods. Part C summarizes phonetic research in seven chapters dealing with the phonetic evaluation of signals, breath stream dynamics, laryngeal vibrations, articulation, Roentgenography in the study of speech, speech analysis and speech synthesis.

The next section of the book, Part D, relates phonetics to linguistics. The general nature of this relationship is first presented in two longer chapters totaling 62 pages, one dealing with phonology in relation to phonetics and the other with phonetics and linguistic evolution. The next six chapters contain brief (five to 13 pages each) analyses of Romance, Germanic, Slavonic and Finno-Ugrian languages, the Semitic phonetic system and African tone languages.

The relationship of phonetics to other sciences, namely pathology, sociology, musicology and aesthetics is discussed in corresponding chapters in Part E. The last section, Part F, treats the origin of speech in chapters describing speech development in childhood, the development of speech in mankind and general semantics—the latter being in four pages, 'a comparison between linguistic and sub-linguistic phonic expression.'

Both space limitations and the magnitude of the task seem to preclude any systematic presentation and evaluation of the contributions of each of the separate authors and chapters. However, some general observations can be made. As might be expected, these contributions vary considerably in scope, nature and value. Some are historical summaries, others review rather conventional textbook material, others present current research and some are descriptive while others seem primarily concerned with the refutation and/or advancement of theories. That some repetition should be present when so many authors write on related subjects is probably inevitable, but not necessarily wholly undesirable since the point of view is varied.

More serious, perhaps, is the general absence (though with some exceptions) of an effort on the part of either the editor or

the authors to make any significant evaluation of the mass of materials presented. For example, it seems evident in some of the reviews of research that relatively weak and insignificant studies are mentioned with little differentiation along side of others more valid and significant. While there was undoubtedly some selection of what was to be omitted and what included, it would seem unsafe to take it for granted that the inclusion of materials necessarily implies even the author's approbation and it certainly does not warrant any assumption of generally equal value. In short, the reviewer believes that the studies reviewed and the works cited are of quite uneven value and, if this is true, it is also true that the reader is left largely to his own devices in sifting out these materials and should, therefore, be correspondingly cautious.

Despite the above reservations, the reviewer believes that this book makes an important contribution to the literature of the field. Bringing together as it does the work of many authors writing on different aspects of the broad field and from different points of view, it gives a fresh insight into the breadth and depth of the study of phonetics and goes far in providing the reader with historical perspective and bringing him abreast of current developments. It is true, and probably unavoidably so, that breadth of treatment is sometimes achieved at the expense of depth as, among other examples, when the discussion of the development of speech in mankind is compressed into ten pages with no bibliography. For the most part, however, there are valuable bibliographies at the end of each chapter for the benefit of the reader who wishes to dig deeper, and specific sources are generously footnoted.

Finally, and in a more reflective vein, the reviewer was impressed again with the very substantial problems in the communication of ideas even among 'scientists' and 'authorities' and even when these ideas concern a common area of study and are expressed in, or translated into, a common language. One is led to suspect that the language used is in reality not very 'common,' but rather that each writer has his own idiom for the expression of ideas that are clear to him within his own frame of reference, but which may become quite distorted when the interpretation is forced to fit the patterns of another and different context. This is in part, of course, one of the problems of translation, but it is also more than a mere matter of translating words from one language to another and it can by no means be assumed that all of the 'native' users of English who contributed to this book are actually using the 'same' language. All of this is not new; it only serves to point up the thought that the reader who is not too hasty in concluding that this or that passage is true or false, new or old, the same or different, *etc.*, will be cautiously alert to the problems of 'translation.' He will want to remember that what he is reading may be written in a 'language' that is 'foreign' to him. If he does this, he will often puzzle at length over the question as to how to render most accurately the writer's intents and meanings into the reader's own idiomatic patterns of thought and expression—before passing judgment.

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SCHUBERT, KURT, *Sprachhörprüfmethoden* (Hearing Testing Methods Involving Language). Stuttgart: Georg Thieme Verlag, 1958. Pp 354. $16.45.

If one were to classify this book, it would fall basically in the category of Fletcher's 'Speech and Hearing,' or Stevens and Davis' 'Hearing.' It is not the type of volume which will be widely read by audiometrists or casual audiologists, even if it were to appear in translated form. On the other hand, it will probably attract the thoughtful consideration of audiologists and acoustic scientists whose interests and training have taken them into the complexities of hearing test construction and equipment.

In gathering the data for 'Sprachhörprüfmethoden,' the author brought a formidable and unusual professional background to bear. In addition to being a physician, he is also a trained engineer, a combination which allows him to accept the challenges posed by the subject matter of his book. His current professional status is that of professor of the staff of the Throat, Nose and Ear Clinic at the University of Bonn.

Although Schubert presents an impressive amount of original work, he also gives ample evidence of being informed of developments in the field of audiology, both in Europe and in the United States. Frequent and sometimes critical references are made to the work of American researchers in the development of hearing tests. At the same time, recognition is given to the im-

pact which American audiological research has had among European acoustic scientists.

In reading this book, the reviewer was struck by several factors which seem to have potential significance: (1) Much of the data presented was organized and treated according to recognized statistical principles. This factor tended to lend stature to the findings presented. (2) The sheer mass of data contained in the book would seem to reflect a long term research project of major proportions. (3) The scope of the book is more extensive than its title might imply. In addition to hearing tests *per se*, consideration is given to such related subjects as the construction of sound-treated rooms and hearing-aid evaluation.

It stands to reason that a volume of this nature would contain much information which would parallel the offerings of any fairly exhaustive text on audiology. However, the author is not content merely to set down various established concepts of audiometric testing. Instead, he amplifies and justifies his statements with a plethora of data which sometimes seems to border on the over-meticulous.

Significant among the contributions of the book are a series of verbal hearing tests designed by the author. In essence, they are made up of six lists of meaningful phrases, six lists of 'half-meaningful' phrases, and a similar number of 'meaningless' phrases. In constructing the tests, Schubert recognized the following criteria as being important:

1. The verbal tests must reflect all important sounds appearing in the German language, these sounds must also be organized in proportion to their appearance in that language.

2. The words should be organized in both meaningful and meaningless forms of presentation. At the same time, they should be combined into short sentences, thus allowing word combinations to be tested without the effects of fatigue being operable.

3. In the interest of test brevity a minimum of words should be used to satisfy the requirements cited above.

4. Each word group should contain approximately the same number of individual sounds. In administering the test, a pause of five seconds should separate word groups.

5. The pause after each word group must be sufficiently long to allow for its being repeated by the patient, and also to allow for recovery from any fatigue which may have been induced. On the other hand, the pause should not be so extended as to consume needless time.

6. The person administering the test must possess a faultless high German type of speech in order that he will be universally understood. His rate of speech must be standard and consistent.

It goes without saying that the very care which Schubert exercised in constructing his tests to conform to the German language nullifies their value among English-speaking countries, except insofar as the basic principles of construction may be applied to other languages.

In addition to presenting his own tests, the author pays extensive attention to different types of speech tests and the manner in which they are affected by their basic structure, by the testing situation, by the various types of hearing loss, by the technical equipment being employed and by the intelligence and motivation of persons being tested.

It is this reviewer's general impression that in 'Sprachhörprüfmethoden' we are met with a scholarly work which may suffer in its impact upon American readers because of its foreign-language presentation, but at the same time, has much of value to offer the reader able and willing to hurdle the language barrier.

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Skinner, B. F., *Verbal Behavior*. New York: Appleton-Century-Crofts, 1957. Pp. 478. $5.50.

Verbal Behavior is a long-awaited book on the psychology of language by one of the outstanding experimental psychologists of our day. Over a period of more than 20 years, Skinner has worked off and on to prepare a functional, objective account of human language behavior. The book reflects this great care and thought in the wealth of phenomena dealt with, the range of problems confronted and the essential unity of the entire enterprise.

Skinner's approach is avowedly and determinedly non-mentalistic. He sets himself the task of accounting for the emission of *verbal operants* (classes of responses having common lawful relations to at least one independent variable) within his own version of the traditional behavioristic 'Drive-Cue-Response-Reward' model of learning. The important variables in the system may be briefly sketched as follows:

Mands (commands, demands, requests, *etc.*) are verbal behaviors whose form is determined by the need-states of the speaker. They specify the form of the response on the part of the listener which will be deemed rewarding.

Echoic, *Textual* and *Intraverbal Cues* are classes of stimuli (words heard, read or spoken by the speaker himself) which act to determine subsequent verbal behavior.

Tacts (labeling, reporting, *etc.*) are verbal behaviors whose form is determined by conditions external to the speaker and special reinforcing contingencies maintained by the community.

Audiences (listeners) are stimuli which control large classes of verbal behavior such as the language employed, the subject matter, the style, *etc.* Listeners also act, of course, as rewarding agents for the behavior.

While these variables may appear much too simple, by a thorough consideration of them and a careful treatment of their multiple interactions Skinner is enabled to analyze and account for a host of illustrations of language behavior. He persuasively argues that more elaborate conceptions are unnecessary baggage. This 'simple' approach is much too elaborate to treat with here. It will amply repay the reader who studies it.

The author proceeds to a discussion of grammar and syntax as *Autoclitic Processes* which consist, roughly, of verbal behavior about the verbal behavior being emitted. He concludes the book with an intensive consideration of the production of verbal behavior, dealing with self-editing and self-strengthening of one's own behavior and the general questions of logical and scientific verbal behavior and thinking.

The book is enormously stimulating and can be read with much profit by almost everyone who is concerned with language processes. It is, as the writer says, 'an exercise in interpretation' and that interpretation is rich and suggestive indeed. It does not, however, appear to be 'a formulation appropriate to all special fields' which concern themselves with language, as the writer sometimes seems to claim. Perhaps it is not, chiefly, because it is still hypothetical and incomplete.

Skinner is giving an ingenious and plausible account of the way verbal behavior might be explained (after the fact) with a metaphorical extension of the language of the psychological laboratory. Experimental evidence of control and prediction of the behavior is deliberately eschewed in favor of example and illustration to avoid obscuring the central theme. In this context *stimuli*, *responses* and *reinforcements* move further and further away from defined concepts with clear referents. There is an extensive amount of work to be done before we can translate the 'situations' and 'subtle states of affairs,' sometimes dealt with in the book, into the equivalent of a laboratory 'stimulus.' Even greater problems are involved in knowing when or how to invoke 'private stimuli,' 'convert responses' and 'self reinforcement'—all non-observable —in the prediction and control of behavior. Skinner's account is a *program* suggesting how we ought to proceed and where we ought to look in further research in verbal behavior. It is a series of promissory notes for further research to endeavor to pay off.

Two contributions of the book are especially noteworthy in the opinion of this reviewer. First, the book focuses on the speaker rather than the listener as the key person in verbal behavior, an emphasis which has been somewhat neglected in the study of language. Second, his attention to the intraverbal determinants of language seems salutary. Here Skinner seems to be of firmest ground, yet it is ground that has not been adequately treated in earlier literature in spite of the fact that most of the bulk of verbal behavior must have intraverbal determinants.

While the book seems at times to attempt too much and certainly drives its simple conceptual apparatus to the limits, this is clearly one of the reasons it will encourage reformulations of old problems, suggest new avenues of approach and stimulate an impressive body of research (both to attack and support this formulation). In the long run it may be expected to advance the aim of attaining scientific understanding of verbal behavior.

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Abstracts

Phillip A. Yantis, *Editor*

Anatomy and Physiology

BERG, J. v. d., Myoelastic-aerodynamic theory of voice production. *J. Speech Hearing Res.*, 1, 1958, 227-224.

After a historical review of theories of voice production, anatomical, histological, physiological and physical data point to acceptance of the myoelastic-aerodynamic theory rather than to the neuro-chronaxic theory which is unable to explain a large number of phenomena. (*B. A. Landes, Texas Technological College*)

HAGERTY, R. F., HILL, M. J., PETTIT, H. S., and KANE, J. J., Posterior pharyngeal wall movements in normals. *J. Speech Hearing Res.*, 1, 1958, 203-210.

Upright cephalometric laminagraphs of white and Negro subjects were made and planimetric measurements were recorded to determine increases in area of the posterior pharyngeal wall as a result of forward movement during phonation of one vowel and one consonant. Passavant's bar was evident in the X rays of only nine subjects, and only three of these manifested actual velar contact during phonation. It is concluded that the extent of forward movement of the posterior pharyngeal wall is of dubious clinical significance in the normal production of speech sounds. (*B. A. Landes, Texas Technological College*)

KOLPKE, G. H., SMITH, E. M., and MURPHY, A. J., Sequence of action of the diaphragm and intercostal muscles during respiration: I. Inspiration. *Arch. phys. Med.*, 39, 1958, 426-430.

This is a report of an electromyographic study of the sequence of action of the diaphragm and intercostal muscles during measured volumes of inspiration. Eleven normal men were used as subjects. The authors conclude: 'The pattern begins with the activity of the diaphragm and is followed by activity in the intercostal muscles. Recruitment occurs in a progressive manner from the upper to the lower intercostals during deep inspiration.' (*J. L. Shapley, University of Iowa*)

MISRAHY, G. A., DE JONGE, B. R., SHINABARGER, E. W., and ARNOLD, J. E., Effects of localized hypoxia on the electrophysiological activity of cochlea of the guinea pig. *J. acoust. Soc. Amer.*, 30, 1958, 705-709.

The scalae of guinea pigs were injected to render the organ of Corti hypoxic without affecting oxygen tension in the stria vascularis. Results of microelectrode measurements show that the dc potential originates in the stria vascularis. Other results are discussed. (*B. A. Landes, Texas Technological College*)

General

ALBRIGHT, R. W., and ALBRIGHT, J. B., Application of descriptive linguistics to child language. *J. Speech Hearing Res.*, 1, 1958, 257-261.

Techniques of descriptive linguistics may be applied, with certain modifications, to the analysis of samples of child language. This language should be regarded as a self-contained system, a language in itself. (B. A. *Landes, Texas Technological College*)

ALTSHULER, K. Z., and RAINER, J., Patterns and course of schizophrenia in the deaf. *J. nerv. ment. Dis.*, 127, 1958, 77-83.

This study was undertaken to secure theoretical information relevant to the incidence and clinical symptomatology of schizophrenia when associated with a severe perceptual defect. Considerable discussion is devoted to the inherent problems involved in obtaining a reliable diagnosis of a deaf schizophrenic. The conclusion is that

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'schizophrenia in the deaf is basically the same clinical entity as in the hearing.' There was a higher incidence, however, in the deaf population. Several clinical symptoms are discussed in contrast to the two populations of subjects. (*E. H. Nober, Adelphi College*)

Braun, F. W., Hearing conservation in industry. *Noise Control*, 4, 1958, 245-247.

A brief discussion of medical and engineering controls of industrial noise is presented. Methods of testing the hearing of industrial workers, along with equipment to be used, are presented. (*B. A. Landes, Texas Technological College*)

Diehl, C. F., and England, N. C., Mental imagery. *J. Speech Hearing Res.*, 1, 1958, 268-274.

A study of mental imagery is important in that it may affect learning in terms of speech. Art, music, and physical education majors comprised one group and students with academic interests other than the above three comprised a second group which was given tests of imagery dominance. Mean dominance scores for the art and physical education groups were larger than for the control group. Implications of the data for speech are discussed. (*B. A. Landes, Texas Technological College*)

Glorig, A., Jr., and Summerfield, A., Noise—is it a health problem? *J. Amer. med. Ass.*, 168, 1958, 370-376.

Writing from the premise that hearing conservation is primarily a medical responsibility, the authors offer physicians information concerning effects of sustained intense noise. Definitions of noise and the decibel scale lead to a discussion of typical domestic and occupational noises and their effects. Non-auditory effects of noise are briefly recognized: annoyance, efficiency impairment, physiological effects. Auditory effects are divided into temporary and permanent hearing losses and the relation of the latter to sustained intense noise is discussed. Procedures are recommended for analysis of a noise problem, measurement of hearing and control of noise exposure. (*W. L. Thurman, Eastern Illinois University*)

Golubeva, N. I., Formirovanie vospriatia prostranstva u detei. (Formation of spatial perception in children.) *Izv. Akad. Pedagog. Nauk. RSFR, Moskva*, 86, 1956, 38-47.

The author investigates the reactions of a child in the process of his development from one to 11 months. Static and moving objects of different sizes, of the same and different colors, accompanied with or without sound, are placed before the child. The fixation of the eyes and the child's movements are registered. Results show that the formation of spatial relations is determined by an interaction of visual, tactile and auditory differentiations. (*B. V. Morkovin, University of Southern California*)

Tribe, H. E., and Shelton, R. L., Jr., A device for the cinematic study of anatomy and movements of the larynx. *J. biol. photgr. Ass.*, 25, 1957, 153-160.

'A simple device for the photography of indirect laryngoscopy is described. Included in the paper are a discussion of techniques for use of this instrument and a statement about the results of its use. It is felt this device can be used to obtain motion pictures of movement of the arytenoid structures and the vocal folds. . . .' (*P.A.Y.*)

High-powered audio amplifiers. *Consum. res. Bull.*, 41(9), 1958, 21-23.

Six high-output amplifiers (60 watts and over) are described and their performances are evaluated. No details of testing procedures are given. (*W. L. Thurman, Eastern Illinois University*)

Kapos, E., and Standlee, L. S., Behavioral rigidity in adult stutterers. *J. Speech Hearing Res.*, 1, 1958, 294-296.

In terms of responses on two- and four-switch electromazes, the stutterers tested did not differ significantly from non-stutterers. This is taken to indicate that the greater perseveration of stutterers in fixed speech patterns does not carry over to behavioral rigidity. (*B. A. Landes, Texas Technological College*)

Kietz, H., New concepts in the theory of hearing. *Trans. Beltone Inst. Hearing Res.*, 9, 1958. A translation of 'Neue Vorstellungen in der Theorie des Hörens.' *Z. Laryng. Rhin. Otol., Stuttgart*, 36, 1957, 241-253.

On the basis of special measurement procedures, new concepts concerning adaptation are advanced. In addition, the relation between the vibrations of the basilar membrane and the perception of loudness is explained by a new schematic procedure. Localization, in terms of the time difference in the arrival of sound to the two ears, is discussed. *(B. A. Landes, Texas Technological College)*

MORRISON, J. F., Insurance and noise. *Noise Control*, 4, 1958, 239-241, 260.

A review of the present status and trends of workmen's compensation laws regarding noise-induced hearing loss. A comparison is made of the laws of the various states which have taken action on the problem. Amounts of payment, volume of claims, administration of claims, the views of insurance companies, and legal aspects are discussed. *(B. A. Landes, Texas Technological College)*

O'NEILL, J. J., OYER, H. J., and BAKER, D. J., Auditory skills of blinded individuals training with pilot dogs. *J. Speech Hearing Res.*, 1, 1958, 262-267.

Fifty-three blinded subjects were rated by their instructors training them with pilot dogs as above-average, average or below-average in the use of the dogs. These subjects were also given standard pure-tone tests, automatic audiometric tests, localization tests and a form of the Seashore Test. Results show that the above-average group demonstrated lower thresholds of hearing as well as superior ability to localize. The Seashore Test failed to distinguish among the three groups. It is proposed that auditory ability may be a determinant of proficiency in the use of a pilot dog by the blinded person. *(B. A. Landes, Texas Technological College)*

REID, E. S., Helping parents of handicapped children. *Children*, 5, 1958, 15-19.

The role of a professional person in guiding parents of handicapped children is discussed. Although there are many avenues of assistance available to these parents, they nevertheless bear the major burden of stimulating the child in his physical and emotional development. Many of these parents manifest intense feelings of disappointment, guilt and resentment. The overt signs indicative of these feelings are discussed in detail.

Three main responsibilities of the professional worker are: (1) to share the child's physical burden, (2) supply know-how and know-why and (3) secure financial assistance. *(F. H. Nober, Adelphi College)*

WINBIGLER, G., Economic aspects of the noise problem. *Noise Control*, 4, 1958, 242-244.

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The problems in determining workmen's compensation claims for hearing loss are discussed from the point of view of the Industrial Accident Commission of California. The cost of such claims, their processing, problems of determining cause of hearing loss in such cases, and recommendation are discussed. *(B. A. Landes, Texas Technological College)*

WINITZ, H., and IRWIN, O. C., Infant speech: consistency with age. *J. Speech Hearing Res.*, 1, 1958, 245-249.

Correlation coefficients of the consistency of infant speech with age in months is not sufficiently significant to warrant their use for predictive purposes. *(B. A. Landes, Texas Technological College)*

WINITZ, H., and IRWIN, O. C., Syllabic and phonetic structure of infants' early words. *J. Speech Hearing Res.*, 1, 1958, 250-256.

During the ages from 13 to 18 months, infant speech consists primarily of mono- and disyllables. Vowel sounds vary but the [a] is outstanding. Consonants are made up of labial and post-dental sounds primarily. *(B. A. Landes, Texas Technological College)*

Pathology

BERNALDO DE QUIROS, J., Le potassium en laryngologie. (Potassium in laryngology.) *Rev. Laryng., Bordeaux*, 79, 1958, 81-92.

Relatively high concentration of potassium intracellularly is characteristic of most body tissues including the neuro-muscular effectors constituting the larynx. Potassium is replaced by sodium to a large extent during tissue lesions, and potassium is restored as part of the healing process. In certain kinds of laryngeal paralyses recovery can be accelerated by an increased intake of potassium-rich foods and by certain drugs which help to increase the intracellular penetration of potassium. *(R. Goldstein, Jewish Hospital of St. Louis)*

COMMICHAU, G., and OEKEN, F. W., Pneumatisationsverhältnisse bei Gaumenspaltenträgern. (Pneumatisation conditions in cleft palate.) *H N O, Berlin,* 7, 1958, 73-76.

Malformations of the palate are connected with pathologic findings in the nasopharynx and middle ear. Anatomic changes in the pharyngeal opening of the Eustachian tube, due to anomalies of the palatal muscles, may lead to abnormal ventilation and infections of the middle ear. Schwarz found, in nine cleft-palate cases, a compact mastoid which he felt was due to an unphysiologic function of the tube. This will hinder the entrance of amniotic fluid, in the embryo, and later of air into the middle ear, and thus hinder the normal development of the mucous lining, causing pneumatisation of the mastoid to stop prematurely. Link and Handl found, in 34 mastoids in cleft palate cases, only two with normal pneumatisation. Experiments on young dogs and guinea pigs confirmed Schmarz's theory. The writers saw in 75 per cent of 55 cleft palate patients diminished pneumatisation. Only one-third showed signs of present or past inflammation, and the percentage of diminished pneumatisation was the same as in the other two-thirds of the cases. Tests proved the function of the Eustachian tube to be normal in the majority of the patients. Therefore, the writers offer the opinion that inherited biological factors are responsible for the lack of pneumatisation of the mastoid. *(E. Froeschels, New York City)*

DENNY-BROWN, D., The nature of apraxia. *J. nerv. ment. Dis.,* 126, 1958, 9-31.

Apraxia is defined as the 'inability to perform certain subjectively purposive movements or movement-complexes, with conservation of motility, of sensation, and coordination.' This paper is concerned with a new appraisal of the manifestations of apraxic disorders in clinico-physiologic terms. The author, therefore, relates clinical observations to organic brain lesions. Several subtypes of apraxia are discussed in detail. These are: ideational, adextrous, perseveration of identification, unilateral, kinetic and subcortical apraxias. The author concludes that 'in its highest elaboration mimetic and propositional behavior is related to conceptual organization of space, objects and persons, in the dominant hemisphere.' *(E. H. Nober, Adelphi College)*

FLEISS, A. N., Mental symptoms as phenomena of agnosia, apraxia, and aphasia. *Amer. J. Psychiat.,* 115, 1958, 340-342.

The author presents a hypothetical concept in which neurophysiologic similarities are suggested between symptoms of mental illness and the phenomena of agnosia, apraxia and aphasia. *(B. S. Street, Minneapolis)*

GARDE, E.-J., Intérêt de quelques dosages biologiques en phoniatrie. (Concerning some biologic determinations related to voice effort.) *Rev. Laryng., Bordeaux,* 79, 1958, 93-104.

The formation of nodules can be related to increases of serous cholinesterase and histamine; some kinds of vocal strain can be attributed to decreases in some of the body steroids. *(R. Goldstein, Jewish Hospital of St. Louis)*

GARDNER, W. H., Executive's dysphonia. A study of 49 patients. *Cleveland Clinic Quart.,* 25, 1958, 177-186.

'A study was made of 49 executives having vocal disorders originating from misuse and abuse . . . The otolaryngologists reported 54 findings of diagnostic significance, the most frequent of which were chronic rhinitis (in 25 patients) and chronic laryngitis (in 12), while specialists from other departments reported 64 findings of diagnostic significance, the most frequent of which were anxiety tension states or chronic nervous exhaustion (in 23) and gastrointestinal disorders (in 21). In addition, the 49 patients reported 243 symptoms, of which horseness was the most common, being mentioned by all. The duration of the vocal defects ranged from one month to 20 years. A total of 194 vocal deviations was observed by the therapist, an average of four deviations per patient. Voice therapy was recommended for all 49 patients. . . . It is believed that best results are obtained from combined therapy consisting of voice lessons and medical measures. Treatment was successful in each of the 37 patients who accepted voice therapy; each one achieved a clear or an improved voice.' *(P.A.Y.)*

GLAUBER, I. P., Freud's contributions on stuttering. *J. Amer. psychoanalyt. Ass.,* 6, 1958, 326-347.

One of the five patients who made up

Freud's classical *Studies on Hysteria* was, among other things, a stutterer, and Freud included here, says Glauber, 'more about dynamics of stuttering than in any other one or all of the references he had ever made to this subject.' The patient, Frau Emmy von N., showed symptoms of 'hysterical delerium,' facial and neck tics and a 'group of speech disturbances. These consisted of a stutter, a tic-like clacking sound and an involuntary utterance of her own name which was the same as that of one of her daughters.' At times Freud referred to both the stutter and the clacking sound as tics.

The stutter was unusual, in that it began in an adult woman, with no history of childhood stuttering. Glauber states, 'I have also noticed that stutterers in general have a tendency similar to that of the group of hysterics referred to by Freud in this case history,' emphasizing 'instinctual phobias' and 'traumatic events.' The bulk of the article is made up of Glauber's own formulations on stuttering, interrupted occasionally by Freud's comments on the hysterical character, conversion, and Frau Emmy, and bolstered by references to such psychoanalytic writers as Coriat, Fenichel, and Federn. Freud ascribed the incompleteness of Frau Emmy's speech recovery to habit maintenance. *(J. G. Sheehan, University of California)*

Grewel, F., Logopedische stoornissen van kinderen met encephalopathie. (Logopedic disorders in children with encephalopathy.) *Logopaed. Phoniat.*, 30, 1958, 49-56, 65-71.

'A survey of the different forms of infantile encephalopathy is given and the occurrence of motor disorders (erroneously called cerebral palsy) with this group of cerebral diseases outlined. The different forms of motor disorders are mentioned and a table of the groups of disorders in infantile encephalopathies is stressed. The symptomatology of speaking disorders in the different types of motor disorders is mentioned and the necessity of team work (*i.e.* pediatrician, neurologist, psychologist, otologist, and audiometrist, physiotherapist, teacher and logopedist) in the treatment of these children is stressed.' *(Author's summary)*

Knobloch, H., and Pasamanick, B., Seasonal variations in the births of the mentally deficient. *Amer. J. publ. Hlth*, 48, 1958, 1201-1208.

The months of occurrence of birth dates of all individuals ever admitted to the Columbus State School were examined. This involved 5855 dates from 1860 to 1949. In comparison to months of births in a normal population the authors found 'significantly more had been born in the winter months, January, February, and March.' Since the third month after conception is known to be the period during pregnancy when the cerebral cortex is being organized, reduced food intake by the mother, especially protein, during the hot months of June, July, and August could be low enough to produce damage in the embryo. The authors contend dietary controls are indicated. *(W. L. Thurman, Eastern Illinois University)*

Misrahy, G. A., Shinabarger, E. W., and Arnold, J. E., Changes in cochlear endolymphatic oxygen availability, action potential, and microphonics during and following asphyxia, hypoxia, and exposure to loud sounds. *J. acoust. Soc. Amer.*, 30, 1958, 701-704.

Comparison of oxygen availability, action potential, and microphonics during asphyxia, hypoxia and following exposure to loud sounds indicates that hypoxia may play an important role in the temporary hearing loss following loud sounds. Mechanisms of auditory trauma are reviewed. *(B. A. Landes, Texas Technological College)*

Spriestersbach, D. C., Darley, F. L., and Morris, H. L., Language skills in children with cleft palates. *J. Speech Hearing Res.*, 1, 1958, 279-285.

Study of a group of cleft palate youngsters shows that this group is in general retarded in terms of mean length of verbal response, is generally retarded in vocabulary usage, but not different from normals in terms of structural complexity of responses. *(B. A. Landes, Texas Technological College)*

Psycho-Acoustics

Bilger, R. C., Intensive determinants of remote masking. *J. acoust. Soc. Amer.*, 30, 1958, 817-824.

This is a report on the results of five experiments designed to investigate the aspects of a masking noise for which remote masking is invariant. An equation is given to describe the relative contributions of band width and spectrum level. The limi-

tations of this equation are discussed. *(B. A. Landes, Texas Technological College)*

BROADBENT, D. E., Effect of noise on an 'intellectual' task. *J. acoust. Soc. Amer.*, 30, 1958, 824-827.

Groups of subjects worked subtraction problems while being subjected to 100 db noise levels, as well as in relative quiet. Results indicate that the task was endangered by the presence of noise and that there are harmful aftereffects, the exact nature of which is not yet determined. *(B. A. Landes, Texas Technological College)*

CARTERETTE, E. C., Message repetition and receiver confirmation of messages in noise. *J. acoust. Soc. Amer.*, 30, 1958, 846-855.

An equation is given from which to predict the number of confirmed messages from a given number of messages transmitted. The present study tests the constancy of the probability of confirmation over a sequence of repeated messages. Results indicate that the probability of confirmation is essentially constant, and that the basic assumption that the components of this probability are also constant is justified. *(B. A. Landes, Texas Technological College)*

HIRSH, I. J., and BURGEAT, M., Binaural effects in remote masking. *J. acoust. Soc. Amer.*, 30, 1958, 827-832.

Experiments are carried out to test the remote masking of lower tones by a higher frequency band width under several conditions. Results are discussed in terms of reversal of phase of the masking band. *(B. A. Landes, Texas Technological College)*

JERGER, J. F., Cumulative auditory fatigue. *USAF Sch. Aviat. Med. Rep.* 58-46, March 1958.

This paper reports the effects on threshold recovery time produced by varying the intensity of a fatiguing stimulus. A cumulative effect was demonstrated on the recovery time for the threshold for a 4500 cps trace signal when the intensity of a 3000 cps (60 sec.) fatiguing tone reached 95 db or higher. Curves relating the recovery time to the intensity of the fatiguing tone exhibited sharp breaks in the 100-105 db region suggesting a 'critical intensity' phenomenon. Intercorrelations between the absolute and cumulative effects at different intensities were low indicating that fatiguing at one intensity bears no systematic relation to cumulative effects present at another level. *(J. C. Webster, USN Electronics Laboratory, San Diego)*

LICKLIDER, J. C. R., Studies in aural presentation of information. *USAF Cambridge Res. Cntr* TR 58-53, Oct. 1957.

The report presents a final summary of research investigating (1) the effects of (a) concentrations of power in the stimulus spectrum, (b) phase pattern variations in complex tones and (c) randomly polarized trains of pulses, on pitch perception; (2) the detectability of sinusoidal signals as a function of the frequency, duration and distribution of signal energy in the spectrum; (3) the identification and discrimination of sounds heard through pulsed-doppler radars aimed at aircraft targets; (4) the intelligibility of speech in the presence of line spectrum interference, and interference by modulated tones. A device for measuring and/or monitoring the S/N ratio during intelligibility tests is described. Finally, (5) a device is described which simulates the presentation of aural and visual radar data in tracking situations. *(J. C. Webster, USN Electronics Laboratory, San Diego)*

SPIETH, W., and TRITTIPOE, W. J., Intensity and duration of noise exposure and temporary threshold shifts. *J. acoust. Soc. Amer.*, 30, 1958, 710-713.

The purpose of the study was to examine the hypothesis that duration is about twice as important as intensity in producing a TTS. Results indicate that no one rule about the relative importance of the two factors would hold over a wide range of intensities and durations. *(B. A. Landes, Texas Technological College)*

Rehabilitation

BARBARA, D. A., Communication in stuttering. *Dis. nerv. Syst.*, 19, 1958, 178-181.

The author summarizes his belief about stuttering as follows: 'We must approach the stutterer as a holistic human being, suffering from neurotic difficulties which are expressed overtly when he speaks and especially so at the time of the stuttering if we are to be able to help him find himself and work through his innermost confusions with all of his anxieties.' *(J. L. Shapley, University of Iowa)*

COULET, G., DORNIER, R., and CHASSELLE, G., Bégaiements et bègues. La rééducation. Réflexions après 15 années d'expérience. Déductions. (Stuttering and stutterers. Re-education. Reflections after 15 years of experience. Deductions.) *Rev. Laryng., Bordeaux*, 79, 1958, 180-192.

Treatment for stuttering is based on the recognition of various aspects of the stutterer's personality, and in the adaptation of therapy to the most important of these aspects. With the proper approach the majority of stutterers can be cured. Those who are unresponsive have serious neuropsychic disorders or neural lesions. *(R. Goldstein, Jewish Hospital of St. Louis)*

FREUD, E. D., The enunciation of the sound [r]. *Logopaed. Phoniat.*, 30, 1958, 2-10.

The phonetic properties in the enunciation of the sound [r] in English, French and German are described, and the major problems confronting the American speech correctionist in the rehabilitation of the defective [r] sound are discussed. *(P.A.Y.)*

FRISINA, D. R., Basic considerations in auditory training. *Amer. Ann. Deaf*, 103, 1958, 459-466.

The author reviews the intact auditory system and raises some questions relative to the neurophysiology of hearing in reference to various anatomical levels of hearing impairment. He discusses the dynamic and constantly shifting threshold of hearing. Monaural-binaural comparisons are made. *(H. J. Oyer, Ohio State University)*

FROESCHELS, E., Psychological treatment of speech and voice disorders. *Amer. J. Psychother.*, 11, 1957, 670-677.

The author emphasizes that 'every good therapy is accompanied by psychotherapeutic attempts to convince the patient of his inherent ability to improve.' The assurance that no organic disorder is present and that speech and voice are simple functions is held to be a 'forcefully psychotherapeutic means.' Psychological aspects of speech, dyslalia and stuttering are considered in the author's framework. Reasons for the 'almost complete failure of pure psychotherapy in stuttering' are considered. In cases in which speech therapy has failed the author uses 'highly active' analytic psychotherapy, but always returns to the chewing method. *(J. G. Sheehan, University of California)*

JACOBY, N. M., The child who won't talk. *Practitioner*, 181, 1958, 109-110.

The author takes the position that 'the role of the general practitioner or pediatrician dealing with a child who won't talk is essentially that of a diagnostician (of possible physical involvements) and once this has been done the treatment is usually a matter for other people especially trained to carry out this difficult but rewarding task.' *(J. L. Shapley, University of Iowa)*

KESSLER, H. E., and KALTENBORN, A. L., An anatomical and physiological consideration in the making of an obturator. *J. Ohio St. dent. Ass.*, 32, 1958, 72-74.

The anatomical and physiological aspects of the velopharyngeal closure are discussed. A comparative radiographic study is presented to determine the extent of velopharyngeal closure in subjects with normal voice qualities and those considered to have a nasal voice. Differences in the movement in the velopharyngeal region between the nasal and non-nasal subjects are presented. Complete velopharyngeal closure is not necessary for normal speech. Velopharyngeal closure appears to be accomplished by a sphincter-like action in addition to the two-stage soft palate pharyngeal action. *(A. K. Kaires, U. S. Navy)*

KIML, J., Tonová stimulace—příspěvek k léčbe spastické afonie. (Sound stimulation—a contribution towards the treatment of spastic aphonia.) *Cesk. Otolaryng., Praha*, 6, 1957, 266-272.

Stimulation of both ears by a sound of about 120 cps with maximum intensity on a Pederson attenuator was used successfully during voice therapy of some patients suffering from spastic aphonia. This effect was explained by Pavlov's theory of negative induction, in which stimulation of the auditory area of the cerebral cortex inhibits the motor area for laryngeal function.

According to the author, spastic aphonia is due to a breakdown of the dynamic stereotype of the voice, and the preponderance in the subcortical and bulbar areas of a manifestation of sphincter activity in the larynx. By sound stimulation, acoustic and phonatory connections are renewed

and strengthened. By a balanced activity of the excitatory and inhibitory processes in the cortex the correct dynamic processes of the stereotypes of the voice, particularly the vibration of the vocal cords, develop. *(B. V. Morkovin, University of Southern California)*

MILLER, J., ROUSEY, C. L., and GOETZINGER, C. P., An exploratory investigation of a method of improving speechreading. *Amer. Ann. Deaf*, 103, 1958, 473-478.

The investigators determine the effects of various types of auditory stimulation on speechreading ability. Three groups, with 20 in each group, were administered the Utley and Costello Speech Reading tests before and after receiving various auditory stimuli. The three types of stimuli were (1) no amplification, (2) straight amplification and (3) delayed feedback. It was shown that the group receiving delayed feedback increased significantly in speechreading ability. *(H. J. Oyer, Ohio State University)*

ROSEN, M. S., and BZOCH, K. R., The prosthetic speech appliance in rehabilitation of patients with cleft palate. *J. Amer. dent. Ass.*, 57, 1958, 203-210.

The purpose, construction, uses and limitations of a speech appliance for a cleft palate patient are presented. Certain cautions are emphasized relative to the possible adverse effects from a prosthetic speech appliance that is not properly managed by the prosthodontist. *(A. K. Kaires, U. S. Navy)*

VIRUELA CARRERES, R., La corrección ortofónica en la educación de los niños oligofrénicos. (Orthophonic correction in the education of oligophrenic children.) *Rev. esp. Oto-neuro-oftal.*, 16, 1957, 461-472.

Systematic observation of the speech and language of oligophrenic children indicates that an unusually large percentage of them have expressive difficulties. These defects can be classified in six categories: physiologic dyslalia, paresis of the articulatory muscles, anatomic defects of the articulatory organs, disturbances in rhythm, faulty inner language, and defects attendant to deafness. There are two phases in the orthophonic treatment of these defects: a 'preventative' period, in which the child is encouraged to imitate good speech carefully, and a 'correction' phase, during which improperly produced phonemes or syllables are corrected. Modifications in procedures are suggested for overcoming the various kinds of defects. *(R. Goldstein, Jewish Hospital of St. Louis)*

WINDER, A. E., A program of group counseling for the parents of cerebral palsied children. *Cerebral Palsy Rev.*, 19, 1958, 8-11.

According to the author, counseling parents of cerebral palsied children in groups rather than individually is effective in establishing a better relationship between parent and child. He also believes the group technique develops a greater willingness on the part of the parents to be less defensive in their relationships with professional personnel from whom they seek help, as well as with neighbors and others whom they feel do not understand their problem. *(J. L. Shapley, University of Iowa)*

Speech Science

DUDLEY, H., Phonetic pattern recognition vocoder for narrow-band speech transmission. *J. acoust. Soc. Amer.*, 30, 1958, 733-739.

Articulation figures of over 95 per cent were obtained using spoken material limited to four consonants and six vowels with the phonetic vocoder described in this paper. This process of recognition is taken as further evidence that spoken words can be reproduced automatically as phonetic text. *(B. A. Landes, Texas Technological College)*

DUDLEY, H., and BALASHEK, S., Automatic recognition of phonetic patterns in speech. *J. acoust. Soc. Amer.*, 30, 1958, 721-732.

'The mechanical recognition of 10 spoken words (the digits) with near-perfect precision has been demonstrated under laboratory conditions for a single talker after optimum circuit adjustment for his voice. Such word recognition points to the possibility of automatic voice writing and other voice-controlled operations . . . This paper describes a working model of a phonetic pattern recognizer built at Bell Telephone Laboratories based on a detailed power-frequency spectrum analysis. Tests . . . indicate that this device, which supersedes an earlier model, leads to almost perfect digit recognition when set for a particular voice. The device also offers outstanding possibilities in speech transmission. . . .' *(B. A. Landes, Texas Technological College)*

FAIRBANKS, G., Test of phonemic differenti-

ation: the rhyme test. *J. acoust. Soc. Amer.*, 30, 1958, 596-600.

This article describes a test for phonemic differentiation made up of a series of words, recognition of which depends upon the initial consonant and consonant-vowel transition. The list is divided into sets of five rhyming words which differ only in the initial consonant. The subject hears a word and has the task of supplying the initial consonant to the 'stem' on his response sheet. Preliminary results are discussed. *(B. A. Landes, Texas Technological College)*

GREEN, D. M., and BIRDSALL, T. G., The effect of vocabulary size on articulation score. *Univ. Michigan Electronic Defense Grp, Tech. Rep.* 81, Jan. 1958.

A statistical decision model is applied to the recognition of voice signals in noise. The model takes into account the vocabulary size, the energy in each word and the noise power. It provides a logical way of transforming articulation scores of different vocabulary sizes into a single function. This function cannot be applied to all data of this type because of the lack of standardization among experimenters in specifying speech-to-noise ratios, in particular the ambiguities that exist in (1) the bandwidth used for measuring the noise and (2) the relation between peak VU meter readings and energy in words. *(J. C. Webster, USN Electronics Laboratory, San Diego)*

HARBOLD, G. J., Pitch ratings of voiced and whispered vowels. *J. acoust. Soc. Amer.*, 30, 1958, 600-601.

In an effort to compare relative pitch ratings of voiced and whispered vowels, observers listened to recordings of pairs of vowels, both whispered and voiced. Data obtained were treated by the paired comparisons method. Results indicate that listeners' pitch judgments of vowels may depend on factors other than fundamental frequency. *(B. A. Landes, Texas Technological College)*

PETERSON, G. E., WANG, W. S-Y., and SIVERTSEN, E., Segmentation techniques in speech synthesis. *J. acoust. Soc. Amer.*, 30, 1958, 739-742.

'A basic method of speech synthesis is described in which discrete segments of recorded utterances are joined together to produce continuous speech. The segments are characterized as (a) containing parts of two phones with their mutual influence in the middle of the segment and (b) beginning and ending at the phonetically most stable position of each phone. All segments containing the same articulatory sequence have been defined as a dyad. The method of synthesis described includes not only articulatory phones, but also intonation, stress and duration. A large number of segments is required and various techniques of obtaining the segments for speech synthesis are discussed. The method is limited to a specific dialect, and practically it is limited to a single speaker.' *(Authors' precis)*

SHULTZ, G. L., The use of the IBM 704 in the simulation of speech recognition systems. *IBM Res. Rep.* RC-37, Dec. 1957.

'The first step in mechanical speech recognition involves the analysis of a large number of speech sounds to determine the characteristics by which these sounds may best be discriminated. To accomplish this analysis special advantage is taken of techniques made possible by the advent of the large-scale digital computer. This paper describes the equipment required both to facilitate editing samples of sounds for analysis and convert these sounds to digital form suitable as computer inputs. A system of programs is presented and the feasibility of the computer as a research tool is illustrated.' *(Author's precis)*

WANG, W. S-Y., and PETERSON, G. E., Segment inventory for speech synthesis. *J. acoust. Soc. Amer.*, 30, 1958, 743-746.

Partial investigation of the inventory necessary to synthesize the idiolect of American speech shows that a total of 43 phonetic units is essential. A sentence synthesized from this basic inventory is demonstrated. *(B. A. Landes, Texas Technological College)*

Testing and Measurement

ARONSON, A. E., HIND, J. E., and IRWIN, J. V., GSR auditory threshold mechanisms: effect of tonal intensity on amplitude and latency under two tone-shock intervals. *J. Speech Hearing Res.*, 1, 1958, 211-219.

Twenty subjects were conditioned with a 0.6 second tone while a similar number of subjects were conditioned with a 3.0 second tone, each tone being followed instantaneously by shock. Analysis of EDR latencies

and amplitudes showed that these factors were different for different tonal intensities. *(B. A. Landes, Texas Technological College)*

BAYLEY, N., Value and limitations of infant testing. *Children*, 5, 1958, 129-133.

A concise historical survey of I.Q. tests from Binet to the present is presented along with several theories that attempt to explain the dynamics involved. Considerable discussion is devoted to the results of the Berkeley studies. The poor retest reliability of I.Q. scores obtained in early infancy and those obtained in later years is attributed to the fact that sensori-motor functions predominate in early infancy; however, the high retest reliability found after six years is attributed to the relatively advanced language development.

The author concludes that the nature of intelligence in a child below the age of three is such that I.Q. test results elicited during these years have little predictive value, if any; they only reveal the child's current status. *(E. H. Nober, Adelphi College)*

BORRI, G., and CASSINARI, V., Valore e limiti dell' esame oto-neurologico nella diagnosi delle sindromi dell' angolo ponto-cerebellare da neurinoma dell' acustico. (Value and limits of otoneurological research in the diagnosis of syndromes of the ponto-cerebellar angle due to acoustic neurinoma.) *Arch. ital. Otol.*, 69, 1958, 459-473.

A review of the literature and a close examination of 30 cases leads the authors to suggest that a cochleo-vestibular examination is essential to an accurate and early diagnosis of these syndromes. Such an examination is also important because it provides evidence for establishing the presence of any compression of the encephalic trunk. *(D. A. LaRusso, University of Washington)*

BOSATRA, A., Sul fenomeno dell'addatamento e sui suoi rapporti con altre prove audiometriche liminari e sopraliminari. (On the adaptation test and its relationship to other liminar and supraliminar audiometric tests.) *Arch. ital. Otol.*, 68, 1957, 946-964.

The author examines the adaptation phenomenon from the audiological and electrophysiological point of view in reference to its site and origin: the neuroceptor or the cochlear post-ganglionic nervous network. The influence of adaptation upon liminal and supraliminal tests is analyzed. Owing to its rapidity and intensity of development, pathological adaptation is able to modify a threshold audiogram as well as recruitment tests, both binaural and monaural, if particular care is not taken to avoid pathological adaptation, which is always present in cases of cochlear deafness. *(B. V. Morkovin, University of Southern California)*

BURK, K. W., Traditional and psychogalvanic skin response audiometry. *J. Speech Hearing Res.*, 1, 1958, 275-278.

Using standard pure-tone audiometric data as a criterion, PGSR audiometric data at three frequencies on 20 randomly selected subjects proved to be statistically valid. *(B. A. Landes, Texas Technological College)*

HANLEY, C. N., TIFFANY, W. R., and BRUNGARD, J. M., Skin resistance changes accompanying the sidetone test for auditory malingering. *J. Speech Hearing Res.*, 1, 1958, 286-293.

A study was made of unconditioned skin responses to delayed sidetone. Results are discussed in relation to the delayed sidetone test of malingering. *(B. A. Landes, Texas Technological College)*

HIND, J. E., ARONSON, A. E., and IRWIN, J. V., GSR auditory threshold mechanisms: instrumentation, spontaneous response and threshold definition. *J. Speech Hearing Res.*, 1, 1958, 220-226.

A description is given of an EDR recording apparatus which meets the objectives of meaningful amplitude measurement and precise latency determination. *(B. A. Landes, Texas Technological College)*

O'CONNELL, M. H., Hearing acuity of Air Force recruits. *USAF Sch. Aviat. Med. Rep.* 58-70, April 1958.

This report describes the installation for testing the hearing of all Air Force recruits beginning training at Lackland AFB. Rudmose automatic audiometers are installed in demountable sound-treated test booths. A sample testing program was undertaken and 5170 audiograms were graded. The testing and grading procedures are discussed. In addition, hearing levels are considered according to age and in terms of an A, B, C classification system according to right, left and least sensitive ears. *(J. C. Webster, USN Electronics Laboratory, San Diego)*

PARSONS, O. A., and HUSE, M. M., Impairment of flicker discrimination in brain-damaged patients. *Neurology*, 8, 1958, 750-755.

The purpose of this study was to investigate the effectiveness of flicker-fusion visual field discriminations in the identification and localization of brain lesions. The flicker-fusion visual fields of 13 operated and 13 nonoperated brain-damaged patients are compared with 26 patients with no evidence of central nervous system disorder. It was found that (1) the brain-damaged group had significantly lower flicker-fusion thresholds at every point, and (2) both operated and nonoperated brain-damaged subjects manifested the same degree of visual impairment.

It is concluded that the plotting of flicker-fusion visual fields is a promising research and diagnostic technique in the study of brain damage. (*B. S. Street, Minneapolis*)

SEDLAČEK, K., and ZEMAN, K., Audiologické nálezy u klíšťové meningoencefalitidy. (Audiological findings in tick meningoencephalitis.) *Cesk. Otolaryng., Praha*, 6, 1957, 332-337.

The authors have studied 180 cases of tick meningoencephalitis which were serologically confirmed. Disturbances in hearing occurred in 18 cases (10 per cent) and had a typical character and audiometric picture. The audiogram showed a perceptive disturbance, mainly in the middle-frequency range.

Loudness-balance tests showed no evidence of recruitment, which suggests a retro-cochlear lesion. Speech audiometry often showed a greater loss than would correspond to the pure-tone threshold in the speech range. Further investigation showed that there was a disturbance of auditory localization and difficulty in hearing music.

The disease is only occasionally severe, and the hearing level usually improves more in the low and high frequencies than in the speech range. The appreciation and understanding of speech, music and localization of sound recover more rapidly than the pure-tone threshold. (*B. V. Morkovin, University of Southern California*)

SILVIU, F., Quelques aspects audiométriques de l'otospongiose au début. (Some audiometric features of the early stage of otosclerosis.) *Rev. Laryng., Bordeaux*, 79, 1958, 75-80.

Analysis of the audiograms during the early stage of otosclerosis in 27 patients shows the following patterns: (group 1, 14 cases) unilateral conductive loss with a maximum of 30 db between 512 and 2048 cps; (group 2, 7 cases) bilateral conductive loss with a maximum of 25-30 db between 512 and 2048 cps; (group 3, 6 cases) bilateral conductive loss with a maximum of 20-30 db for 500 cps and lower. Bone conduction is normal in all cases. (*R. Goldstein, Jewish Hospital of St. Louis*)

WILCOTT, R. C., Effects of local blood removal on skin resistance and potential. *J. comp. Physiol. Psychol.*, 51, 1958, 295-300.

Skin resistance and skin potential were measured from subjects' feet which had been exsanguinated by means of an Esmarch bandage. The results suggest that 'there are differences in the local neurophysiological mechanisms underlying the two types of bioelectrical activity.' (*B. A. Landes, Texas Technological College*)

News And Announcements

Severina Nelson, *Editor*

Significant Trends in the Professions

An 'Editorial Comment' in the August 1958 issue of *The Journal of the American Optometric Association* explains forthrightly the professional position of optometrists who today prescribe hearing spectacles as a part of their patient services. According to the 'Comment,' delegates to the 61st Annual Convention of the Association have denied in a positive, emphatic action the claim 'that the optometrist or ophthalmologist who does not today prescribe hearing spectacles is passing up an opportunity to render a needed and valuable service to his patients.' Because of great pressures exercised by certain hearing aid manufacturers and distributors to persuade optometrists to become involved in the distribution of these hearing devices, the Resolution of the 1955 Congress of this Association was reiterated and reaffirmed at the 1958 meeting. Optometry was declared to be a vision care profession.

This traditional principle was endorsed further because specialized knowledge in the hearing area is not provided in curricula of optometric colleges; the two fields involved are not parallel; monetary factor is not commensurate with the many adjustments often required of the devices; and there is overwhelming evidence that hearing aid glasses constitute only a transitory phase of a continuing development which will eliminate eventually the hearing aid glasses in preference to a small device which fits directly in the ear.

Hand in hand for rehabilitation. In these words is characterized the pattern of aid given by the National Society for Crippled Children and Adults, Inc., through Easter Seal Services. The informative *Annual Report 1958* summarizes voluntary activities, television and film media, parental education, fellowships and scholarships, research grants, workshops, camp facilities, publications and library materials.

With the discontinuance of the former journal, *The Crippled Child*, a monthly publication *Rehabilitation Literature* is now available. The manual for professional workers, *Anatomical Considerations of Language*, by Chester A. Swingart, M.D., Associate Director of the Institute of Physical Medicine and Rehabilitation, is also of special interest.

News and Announcements

Veterans Administration has given a special commendation to Dr. Robert E. Stewart, director of the agency's Prosthetic and Sensory Aids Service in Washington, D.C., since 1955, for his contributions to the VA prosthetics program. Dr. Stewart was cited by Dr. William S. Middleton, VA Chief Medical Director, for efficiency, leadership and coordination of inter-agency efforts in behalf of disabled veterans and citizens.

The Prosthetic and Sensory Aids Service provides artificial limbs, orthopedic shoes, hearing aids, and other prosthetic devices to disabled veterans, and also conducts extensive research and training in this area.

Ground was broken August 7, 1958, for the new $500,000 Houston Speech and Hearing Center Building. Occupancy of the Center's new quarters in the Texas Medical Center is anticipated by July 1959.

A brochure from the Aphasic Foundation of Oklahoma indicates that the original founders in 1956 were aphasic patients who were interested in helping the public under-

News and Announcements is edited by Severina Nelson, University of Illinois, assisted by the following committee: Richard Brett, Waukegan Township High School; Martha Black, State of Illinois Office of Public Instruction; Laura Wright, Alabama College; Helen Knight, Evanston Township High School; Katherine de Hirsch, Columbia Medical Center; Ronald Tikofsky, University of Michigan; Sue Earnest, San Diego State College; J. Buckminster Ranney, Alabama Polytechnic Institute; and Charles Hutton, University of Illinois.

stand the nature of aphasia and in providing rehabilitation guidance. The Northwest Kiwanis Club, Oklahoma City, is responsible for the brochure which explains the three areas of education, service and research offered by the Foundation; notes that 7000 people in this particular state will suffer strokes next year; and lastly, estimates that of the 21,000 hemiplegics surviving in homes and hospitals, at least one-half are likely to have aphasic symptoms.

An Auditory Discrimination Test, Form 1 and 2, and a preliminary edition of a *Manual of Directions*, have been published by Joseph Wepman, Ph.D., University of Chicago. According to the author, the test measures only the ability of the child to hear accurately by means of a test-series of 30 word-pairs listed in each of the two forms. The manual indicates that the test is so designed and scored that children who are slower than their peers can be easily identified. This latter selection of children applies not only for speech accuracy but also for reading ability. Standardization measurements are given in the manual. Address: Joseph M. Wepman, 950 E. 59th Street, Chicago 37, Illinois.

Dedication ceremonies and formal opening of a Primary Oral Training Unit at the Indiana State School for the Deaf took place November 24, 1958. Built and equipped at a cost of over $900,000, the building is of one-story construction and includes separate areas for classrooms, dormitory and special activities. The classroom wing contains an Audiology Clinic which is directed by Frank Drueh, Ph.D.

The Speech and Hearing Association of Virginia had its first organizational meeting in October 1958 at the Richmond Academy of Medicine. James M. Mullendore, Ph.D., University of Virginia, was elected President. The membership, which will be approximately 125, is restricted to individuals possessing professional qualifications in speech correction, audiology and deaf education.

The Oregon State Board of Health granted the Portland Center for Hearing and Speech $40,200 from Hill-Burton funds which had been allocated to the State of Oregon. The Federal money, matched by funds raised locally, will be used to construct a speech and hearing rehabilitation center costing $85,000. George J. Leshin, former Center Director, resigned recently to become Hearing Conservation Supervisor with the Oregon State Board of Health. Warren E. Johnson, formerly Director of the Cincinnati Speech and Hearing Center, assumed the directorship of the Portland Center on October 1.

The National Hospital for Speech Disorders, New York City, has announced the publication of *Logos*, a medical and scientific journal devoted to voice and speech disorders and related problems in communication. This semi-annual journal appeared in October 1958. Subscription, $1.75 for one year; $5.00 for three years. Address: Lynwood Heaver, M. D., Managing Editor, *Logos*, 61 Irving Place, New York 3, New York.

Persons attending the 11th Congress of the International Association of Logopedics and Phoniatrics in London, England, August 17-22, 1959, will receive a Report of the Proceedings free of charge. For others there is a reduced 17 s. 6 d. if ordered and paid for in advance. Requests should be sent to the Congress Secretary, Miss Peggy Carter, L.C.S.T., 46 Canonbury Square, London N 1, England.

According to a recent communication, several Americans planning to attend the Congress have been sending payments to London in dollars. Since there has been a discrepancy in several of these cases, payments should be made in sterling.

The William and Harriet Gould Foundation, Chicago, presents an award ($300) annually for outstanding research in laryngology to encourage and reward fundamental investigations in this field. The International Committee for the Gould Award announces the recipient for the year 1958 is Professor Fumio Nakamura, M.D., Kyoto Prefectural Medical College, for his electrophysiologic studies of laryngeal function.

Programs

Grants offered by the Easter Seal Research Foundation include $4,140 to the University of Illinois College of Dentistry for research on 'Tooth Ring Analysis of Handicapped Children,' including children crippled by cleft palate, mental deficiencies and mongolism; $2,288 to the University of Wisconsin for an investigation of 'Growth and Development of Basic Motor Skills'; $3,265 to Western Interstate Commission

for Higher Education for a 'Regional Workshop on Preparation of Teachers for Handicapped Children in the Western States.'

The Speech and Hearing Center of Temple University announces an affiliated program with Magee Hospital. Graduate students and assistants will be assigned as therapists to the Magee speech and hearing program, under the supervision of Murray M. Halfond, Ph.D., Director.

A Department of Special Education has been established at the University of Pittsburgh under the direction of Jack W. Birch, Ph.D., former lecturer in psychology and education, and research assistant in speech, as well as director of special education for the Board of Public Education of the city of Pittsburgh. The new department offers a professional program for those interested in personnel work with the handicapped and exceptional children. In addition to the participation of the Departments of Speech, Sociology and Psychology, the Schools of Education, Medicine and Nursing will cooperate to offer graduate training leading to higher degrees.

For the 1958-59 school year, the Office of Vocational Rehabilitation has awarded training grants totalling $201,458. Ten schools received $97,800 for 40 traineeships and 11 schools received $103,658 for expanding or improving their teaching programs to prepare speech therapists to work with the adult disabled. Those receiving training grants include Stanford University Medical School, Northwestern University, Indiana University, State University of Iowa, Western Michigan University, University of Minnesota, Columbia University Teachers College, Western Reserve University, Pennsylvania State University, University of Pittsburgh, University of Wisconsin.

Applicants for these traineeships are evaluated by the educational institution, which has full responsibility for selecting the individuals to receive OVR grants. Eligibility requirements for students include basic certification in speech or hearing except that the required one year of experience may be waived at the discretion of the institution; admission to a graduate training program designed to prepare students for speech and hearing therapy with handicapped adults; citizenship or lawful admission for permanent residence in the United States; waiving of other Federal educational benefits during the period of OVR traineeship; interest in future work in the rehabilitation of adults handicapped by speech and hearing disorders; supervised clinical practice in a rehabilitation setting offering an opportunity for inter-professional collaboration in serving disabled persons.

The duration of the traineeship is intended to cover a full annual unit of training, either for a period of training up to 12 months or for an academic year. No individual may receive a traineeship for any one connected study for a period longer than two years. The amount offered varies according to the year of graduate study: Master's degree, $2400; second graduate year, $2800; third graduate year, $3400. Address: D. Elizabeth Davis, Division of Training, Office of Vocational Rehabilitation, Department of Health, Education and Welfare, Washington 25, D.C.

The College of Physicians and Surgeons, Columbia University, is announcing a spring session of courses in Postgraduate Cerebral Palsy to be held March 2 to May 1, 1959. The course structure is designed (1) to summarize basic knowledge concerning cerebral palsy; (2) to review the present status of practical therapy, including medical, educational and psychological aspects; and (3) to point out controversial features of our present understanding of this condition. The first three weeks will cover lectures and demonstrations in Medical Management, Basic Science, Psycho-social Aspects and Organization. The last six weeks will offer clinical experience in all types of facilities within the New York area and also seminars in therapeutic approaches, parent-therapist relations and other requested topics. The program is sponsored by the United Cerebral Palsy Association, Inc. Address: Mrs. Isabel P. Robinault, College of Physicians and Surgeons, Columbia University, 630 West 168th Street, New York 32, New York.

The National Institute of Mental Health has awarded a research grant to Gertrud L. Wyatt, Wellesley Public Schools, for a therapy study in stuttering. The project, 'Patterns of Therapy with Stuttering Children and their Mothers,' will include the study of mother-centered and child-centered therapy.

Zeta Phi Eta Foundation has offered grants to the University of Denver, the Robbins Speech and Hearing Clinic of

Emerson College, the Black Hills Playhouse and the Children's Creative Dramatics Theatre of the University of Washington. The gift to the University of Denver will aid the clinic's program in testing the hearing of pre-school children.

The Department of Psychology, University of Miami, has added four courses at the senior and graduate levels (the latter being included in the doctoral program for clinical psychology): Psychology of the Cerebral Palsied and the Neurologically Handicapped, Assessment of the Cerebral Palsied and Neurologically Handicapped and two field training courses. Robert M. Allen, Ph.D., Consultant in Psychology and Professor of Psychology is in charge of the program.

The Veterans Administration is offering again during the summer of 1959 the Audiology Trainee Program to college students who have completed their junior or senior years and who have selected a major in speech and hearing science. The course of study will be available at five audiology clinics located at Washington, D.C., New York City, Chicago, San Francisco and Los Angeles; and will include emphasis in pure tone, galvanic, speech and delayed side tone audiometry, communication skills, and the selection and fitting of hearing aids. In addition to the staff members of each clinic, the following consultants in Acoustical Audiology will give lectures: Leo G. Doerfler, John H. Gaeth, William G. Hardy, John W. Keys, Frank M. Lassman, Kenneth O. Johnson, Hayes A. Newby, Raymond T. Carhart, Bernard M. Anderman.

Facilities and funds will provide for only 20 trainees: those who have completed their junior year will receive about $77.00 a week during training, and those who have completed the senior year, $86.00 a week during training. All expenses of travel and personal maintenance must be borne by the trainee. Students interested in this program should submit two completed applications for Federal Employment, SF-57 (obtainable at any first or second class post office), a recommendation from their major professor, a supplementary statement setting forth their reasons for wishing to be considered for this program, and their preference for assignment to either the Eastern or Western phase. Applications and supporting documents must be mailed in time to be delivered in Washington, D.C., on or before Monday, March 30, 1959. Address: Donald Causey, Chief, Acoustical Audiology Unit, Veterans Administration, Veterans Benefits Office, 20th and Constitution Avenue, N.W., Washington 25, D.C.

Sara Stinchfield Hawk recently gave a course in 'The Motokinesthetic Approach to Speech Therapy,' its method and application, to thirty-one Seattle speech and hearing therapists. Also taking the course were several classroom teachers of the mentally defective. This in-service training course was arranged by the Adult Education Department of the Seattle Public Schools and sponsored by Elvena Miller, Supervisor of Speech Correction in the Seattle Schools.

William M. Cruikshank, Director of Education for Exceptional Children, announces the establishment of a Bioacoustics Laboratory at Syracuse University. The laboratory, located in the Special Education Building, is being developed within the Office of Research in Special Education and Rehabilitation. Director of the establishment is Josef J. Zwislocki, formerly Research Associate and Director of the electro-acoustical laboratory in the Department of Otolaryngology, University of Basel, Switzerland. Currently the staff of the laboratory is engaged in two major research projects: an investigation of sound transmission of the ear, sponsored by the United States Public Health Service, and an investigation of certain means of sound attenuation, supported by the United States Office of Naval Research.

A three-day institute for the teachers of the deaf and speech and hearing therapists throughout the State of Indiana was held recently at the Indiana School for the Deaf. Dr. Powrie V. Doctor, Editor of the American Annals of the Deaf and Chairman of the area of social studies at Gallaudet College, was the feature speaker and participant during the institute. Methodologies of instruction of the school were observed and discussed. This institute was sponsored by the State Hearing Commission, the School for the deaf, and M. D. Steer, Ph.D.

Meetings

Acoustical Society of America; Ottawa, Canada; May 14-16, 1959.

American Association for Cleft Palate Rehabilitation; Sheraton Hotel, Philadelphia, Pennsylvania; April 30-May 2, 1959.

American Broncho-Esophagological Association; The Homestead, Hot Springs, Virginia; March 10-11, 1959.

American Instructors of the Deaf; Colorado School for the Deaf, Colorado Springs, Colorado; June 28-July 3, 1959.

American Laryngological Association; The Homestead, Hot Springs, Virginia; March 8-9, 1959.

American Laryngological, Rhinological and Otological Society; The Homestead, Hot Springs, Virginia; March 10-12, 1959.

American Medical Association, Section on Laryngology, Otology and Rhinology; Atlantic City, New Jersey; June 8-12, 1959.

American Otological Society; The Homestead, Hot Springs, Virginia; March 13-14, 1959.

American Personnel and Guidance Association; Hotel Cleveland, Cleveland, Ohio; March 23-26, 1959.

American Society of Group Psychotherapy and Psychodrama; Hotel Commodore, New York; April 26-27, 1959.

Central States Speech Association; Statler Hotel, Detroit; April 10-11, 1959.

Council for Exceptional Children; Atlantic City, New Jersey; April 7-11, 1959.

Fourth Inter-American Conference on Rehabilitation; San Juan, Puerto Rico; May 20-23, 1959.

International Society for Welfare of Cripples, Mediterranean Conference on Rehabilitation; Athens, Greece; June 9-13, 1959.

Southern States Speech Association; Hotel Sheraton-Seelbach, Louisville, Kentucky; April 6-10, 1959.

Speech Association of the Eastern States; Henry Hudson Hotel, New York; April 9-11, 1959.

Assistantships, Scholarships, Fellowships

Adelphi College. Graduate Assistantship: Speech and Hearing Rehabilitation. Stipend of $1800 plus tuition. Address: Ruth H. Zimmerli, Adelphi College, Garden City, New York.

Northwestern University. Clinical Assistantships, Teaching Assistantships, Research Assistantships: Speech Pathology, Language Pathology, Audiology. $1300-$1600 for academic year plus a predetermined tuition rebate; $1800 without tuition rebate. Twelve hours of duty for smaller awards. Maximum of 10 hours of graduate study per quarter.

Traineeships: offered in the three areas noted above and sponsored by the Department of Health, Education and Welfare, Office of Vocational Rehabilitation. $2400 for 12 months, beginning in September. Available for those working towards the Master's degree and primarily interested in adult speech and hearing rehabilitation.

Fellowships and Scholarships: Reine Humbrid Myers Fellowships for a two-year program of graduate study. Annual stipend of $3000 for those interested in professional and executive responsibilities of the American Hearing Society. Fellowships and scholarships also granted by Graduate School and the Department.

For applications in area of Speech Pathology, address Harold Westlake; in Language Pathology, Helmer Mykelbust; in Audiology, Raymond Carhart; for OVR traineeships, David Dickson. Department of Communicative Disorders, School of Speech, Northwestern University, Evanston, Illinois.

Ohio University. Teaching Fellowships: Speech Pathology, Audiology, Speech Science. Open to graduate students working on the doctorate degree. Stipend for nine months begins at $2000 for students with the Master's degree and ranges to $2800 depending upon training and experience. Remission of fees. Teaching fellows carry a maximum course load of 12 semester hours. Approximately 18 hours of service in teaching, clinical or laboratory duties.

Graduate Assistantships: Speech and Hearing Clinic. Available for those studying at the Master's level. Stipend of $1600 for nine months and remission of fees. Supervised experience in the teaching of basic speech courses. Appointment is renewable for a second year at $1800. Address: Claude E. Kantner, Director, School of Dramatic Art and Speech, Ohio University, Athens, Ohio.

University of Southern California. Clinical Assistantships: Las Floristas Pre-School Speech Clinic. Speech therapy with preschool children and parental counseling. $1500 for nine months, 20 hours per week. $750 for nine months, 10 hours per week. Possibility of additional remuneration for summer session.

Clinical Assistantships: Speech-Hearing Clinic Supervision of clinical activities in various Clinic Divisions. Up to $1500 for nine months. Possibility of remuneration up to $3500 available after first year for graduate clinicians with ASHA Basic Certification.

Teaching Assistantships: Instruction and supervision of drill of students in voice im-

provement or in speech improvement for the foreign-born. $570 to $975 for nine months.

Research Assistantships: Las Floristas Pre-school Speech Clinic. Research activities with speech of the pre-school child. Open to students finishing doctoral work.

Fellowship: Junior League Speech Pathology Fellowship. Open to graduate student with advanced clinical training to pursue M.A. or Ph. D. in Speech Pathology. $1500 for academic year.

Internship: Rancho Los Amigos Hospital. For graduate student with clinical experience. Up to $1400 for ten months. Half time. Address: William H. Perkins, Speech-Hearing Clinic, University of Southern California, Los Angeles 7, California.

Audiology Assistantship: Speech-Hearing Clinic. Audiological testing, supervise lip reading and auditory training. Up to $1100 for nine months. Address: Victor P. Garwood, Speech-Hearing Clinic, University of Southern California, Los Angeles 7, California.

Syracuse University. Clinical Assistantships: Audiology and Speech Clinic. $1500 to $2000 plus six hours remitted tuition for each semester. Twenty hours of clinical work required. Available for those working for advanced degrees. Address: Louis M. Di Carlo, Speech and Hearing Center, Syracuse University, Syracuse, New York.

Vanderbilt University School of Medicine. Training Fellowships: The Bill Wilkerson Hearing and Speech Center. Programs leading to the M.S. degree in Speech Correction, Audiology, or Deaf Education. Monthly stipend of $100-$130 for 12 months; tuition fee waived. Address: Forrest M Hull, The Bill Wilkerson Hearing and Speech Center, 19th Avenue South at Edgehill, Nashville, Tennessee.

University of Washington. Teaching (Clinical) Fellowships: open to those working toward the M.A. degree in Speech and Hearing Therapy; $1575 plus tuition and all compulsory fees; clinical service, 20 hours per week.

Predoctoral Associates: $1827 plus tuition and all compulsory fees; clinical service up to 20 hours per week. Open to those working toward a Ph.D. Clinical practice in the public school, hospital, rehabilitation center, cerebral palsy center, and University speech and hearing clinic. For applications, address: H. G. Rahskopf, Department of Speech, University of Washington, Seattle, Washington. For information, address: James Carrell, Speech and Hearing Clinic, University of Washington, 1320 Campus Parkway, Seattle 5, Washington.

Materials

Equipment. Each year the number of manufacturers of magnetic tape recorders has been increasing. Last fall *Audio Record,* published by Audio-Devices, Inc., 444 Madison Avenue, New York 22, New York, carried a summary of tape recorders. The 1956 issue listed 45 manufacturers, and the 1957 edition carried the names of 51 manufacturers, the various models and prices, frequency response and data for each model.

Films. Two sound filmstrips on 'Wave Propagation and Antenna Theory,' produced for the U. S. Department of the Army, have been made available for school and other civilian use. Part I discusses radio antenna, including efficient radiation, the feeder in the antenna system, and the electrical energy to the antenna; 72 frames, with two 16-inch, 33 1/3 rpm discs to play 42 minutes. Part II explains how antennas receive electro-magnetic waves and the effect of polarization on reception, the uses and types of mobile unit antennas in tactical operations and fixed station antennas in strategic operations; 39 frames with two 16-inch, 33 1/3 rpm discs to play 30 minutes. Address: United World Films, Inc., 1445 Park Avenue, New York 29, New York.

The world premiere of 'Deadline 53 Minutes,' an educational film developed by the Public Relations Department of United Cerebral Palsy Association, was one of the main features of the ninth Annual Conference of this organization, November 14-16, 1958, in Washington, D.C. This 30-minute documentary covers many facets of local, state and national services to the cerebral palsied, including therapy, parental counseling, pre-school activities, special education, vocational evaluation, public education and research. The film, which has a strong underlying appeal for mass audiences, traces the progression of the child with cerebral palsy from the early therapies through adult vocational activities.

The film is cleared for television and may be rented by interested groups. In addition to this production, two specialized films on education and vocational rehabili-

tation are being prepared to form a nucleus of a comprehensive film library for the use of UCP affiliates. Address: Carl P. Oswald, United Cerebral Palsy Association, 321 West 44th Street, New York 36, New York.

Pamphlets. United Cerebral Palsy Research and Educational Foundation will distribute booklets concerning *Research and Training Grants* and *Postdoctoral Fellowships in Brain Research* on request. Application forms are of two kinds: project grant or research contract; ancillary grant related to a program grant now operating. The next deadline for applications is March 15, 1959, for which grants will become effective July 1, 1959. The Foundation warns that the nearer the deadline an application is received, the less time there will be for evaluation. Address: Brewster S. Miller, M.D., Director of Research, 321 West 44th Street, New York 36, New York.

A questionnaire on editorial policies and preferences of the leading periodicals in the United States, Canada, Great Britain, Australia and New Zealand has resulted in a publication, *A Guide to Literary and Linguistic Scholars.* Price, $1.95. Address: University Press, Wayne State University, Detroit 2, Michigan.

Open Doors, a publication of the Institute of International Education, contains information received from its annual survey of exchange professors. Address: Institute of International Education, East 67th Street, New York 2, New York.

The Advancement and Placement Institute has released the second volume of the *World-Wide Graduate Award Directory,* which gives complete information on how to obtain graduate study funds ranging from $200 to $10,000. Over 250 universities and foundations from almost every state and over 100 foreign universities have sent informative material for this volume. Included is current information about fellowships, assistantships, scholarships, loans, prizes and self-help programs. Copies of both volumes may be examined at many graduate schools, university placement offices, libraries, or may be ordered from the Institute, Box 99H, Greenpoint Station, Brooklyn 22, New York. Price is $3.00 for each volume or $5.00 for the two volumes.

The Advancement and Placement Institute, a non-commercial professional and advisory service in the education field, has been publishing the monthly non-fee teacher placement journal, *Crusade,* since 1952. The Institute also issues the annual *World-Wide Summer Placement Directory,* a comprehensive guide to summer employment for college students and educators.

Forty million copies of the Government's best seller, *Infant Care,* have been sold since it was first published in 1914. Children's Bureau, Department of Health, Education and Welfare, is now planning the eleventh revision. The current edition contains not only the latest medical advice on bringing up babies but also includes information on many of the psychological problems and needs of infancy. This pamphlet is one of a series of child development publications for parents, covering the period from the pre-natal stage through adolescence.

Out of the Backroom, booklet written by Robert L. Caylor, is an account of the social frustrations of the cerebral palsied. This publication will give understanding to the public and constructive help to the handicapped. Price, $1.50. Address: Robert L. Caylor, 108 North Street, Cleveland, Mississippi.

Social Legislation Information Service, Inc., has published a guide to government grants and contracts, *Federal Agencies Financing Research,* Document 10. Price, $1.00 per copy. Address: 1346 Connecticut Avenue, N.W., Washington 6, D. C.

Over 100 agencies and individuals are listed in a new Directory of American Psychological Services published by the American Board of Psychological Services. Individual clinical and industrial psychologists are named, along with psychiatric clinics and other medical institutions offering psychological services.

Correction: The brochure 'My Future' (see August 1958 issue) was prepared by and for the California Speech and Hearing Association and was produced through the combined efforts of a number of people. R. L. Douglass, Los Angeles State College, is serving as the distributor.

Reprints. National Society for Crippled Children and Adults, Inc., has released three articles concerning stroke patients: 'A Stroke Needn't Strike You Out' by Walter L. Resiner, vice-president of Educators Mutual Life Insurance Company, Lancaster, Pennsylvania; 'Preventive Techniques of

Rehabilitation for Hemiplegic Patients' by Nila K. Covalt, M.D., medical director and administrator of the Kirkpatrick Memorial Institute of Physical Medicine and Rehabilitation, Winter Park, Florida; and 'Life with a Stroke' by McKenzie Buck, Ph.D., director of the Speech and Hearing Clinic, University of Florida, Gainesville, Florida. Price, 25¢ per copy for the first two reprints; 10¢ per copy for the last one. Address: 2023 West Ogden Avenue, Chicago 12, Illinois.

The following reprints from the Department of Otolaryngology and The Laboratory of Audiology, Stockholm, Sweden, may be secured from The Volta Bureau: *Pure Tone Audiometry for Pre-School Children* by Bengt Barr; *Auditory Training of Severely Hard of Hearing Pre-School Children* by Erik Wedenberg; *Auditory Tests of New-Born Infants* by Erik Wedenberg. First two reprints, composed of 166 pages, $3.12; last reprint, 18 pages, $.55.

Copies of the *Proceedings Issue* of the *Volta Review*, containing all the papers read at the 1958 summer meeting of the Alexander Graham Bell Association for the Deaf, are now available. The issue includes papers on research, aphasia in children, language and reading, supervision, teacher education and recruitment, speech, audiology and auditory training, as well as over 100 pages of current reference material. $2.00 per copy. Address: The Volta Bureau, 1537 35th Street, N.W., Washington 7, D.C.

The *Cerebral Palsy Review*, June 1958, lists 20 reprints on cerebral palsy available at 15¢ per copy. Address: CP Review, 2400 Jardine Drive, Wichita 14, Kansas.

Therapy Material. The Alexander Graham Bell Association has published three booklets that serve a functional purpose: *Tim and His Hearing Aid*, an illustrated book about a small boy and his adjustment to his hearing aid, by Eleanor C. Ronnei and Joan Porter, $1.00; *Speechreading, A Guide for Laymen*, a paper bound manual for parents and classroom teachers working with preschool and elementary children, written by Adam J. Sortini and prefaced by Miriam Pauls, $1.00; *Look, Listen and Lipread*, a book of practice material, suitable for use with adults and senior high school students, contributed by 37 outstanding teachers of lipreading and edited by Betty C. Wright, $3.95. Address: Alexander Graham Bell Association for the Deaf, Inc., 1537 35th Street, N.W., Washington 7, D.C.

A booklet, *Let's Play Talk*, contains some 35 pages of suggested speech therapy to be employed by parents and teachers. Robert L. Mulder, Director of Western Oregon Cooperative Speech and Hearing Center, Oregon College of Education, Monmouth, has prepared this handbook which can be purchased from him for $1.00.

The 1959 edition of the *Audio-Visual Catalog*, published by Children's Reading Service, presents approximately 1000 carefully chosen phonograph records and filmstrips from many manufacturers. Listings are arranged by subject area and grade levels suitable for use in kindergarten through college level and cover such categories as language arts, rhythms, science and social studies. Copies are available free to teachers if requested on official letterheads; otherwise, 25¢ is charged for each copy. Address: Children's Reading Service, 1078 St. John's Place, Brooklyn 13, New York.

Improving Children's Speech, a booklet by Jack W. Birch, Ph.D., Jack Matthews, Ph.D., and Ernest Burgi, Ph.D., is one of a series classified as Teaching Exceptional Children in Every Classroom. According to the authors, the purpose of this pamphlet is to help teachers prevent and correct speech disorders of their pupils and to provide information, understanding and techniques for teachers without special training in speech therapy. Price, $1.00 per booklet. Address: Public School Publishing Company, Cincinnati 19, Ohio.

Recordings for Auditory Training (78 rpm) may be secured at Hearing Rehabilitation, 1072 North Drive, East Meadow, New York. The listing includes *Where Is It* (Side A) and *Do This; Do That* (Side B); *Hazel Hawkin's Hat* (Side A) and *The Three Little Pigs* (Side B); *Henny Penny* (Side A) and *Little Red Riding Hood* (Side B). Price per record, $4.20.

Let's Travel, by Mary Wood Whitehurst, is a book for the hard of hearing in which auditory training, lipreading and speech are integrated to provide avenues for vocabulary building. The 14 units of work are adapted to the needs of children between 12 and 16 years with hearing impairment. The material is planned around travelogues concerning other countries, London, Switzerland, Holland, Rome,

Venice, Germany, Paris, Pompeii and Mexico (5 units). *A Manual for Teachers*, bound with the *Pupil's Workbook*, is priced at $7.20; *Pupil's Workbook*, $3.75. Address: Hearing Rehabilitation, 1072 North Drive, East Meadow, New York.

Speech Readiness by N. H. Chamberlain, O. J. Hooker, and W. H. Wagoner is a concrete manual for use by the teacher, therapist or parent in the improvement of speech of the severely speech-handicapped child of arrested development. Available for $1.50 at Olnay Books, P. O. Box 3125, Rochester 14, New York.

Three diagnostic and record forms have been designed for the use of speech correctionists in the public schools: a case history file (folder 9 x 12) includes pertinent speech and audiometric data and progress records; separate phonetic chart forms to be placed within the folder; an additional short form (card 5 x 8) with the speech record and clinical progress record (planned for typical minor speech difficulties). Each form is simple in format, easily handled, with more than adequate space for detailed recording, if necessary. Designed by Severina E. Nelson, Ph.D., Frances Johnson, M.S., and Jane Archer, M.S., University of Illinois Speech Clinic, Urbana, Illinois. Prices: folder, $11.00 per 100; phonetic chart, $2.75 per 100; short form, $4.50 per 100. For prices per 500 and 1000 write to publisher: The Randolph School Supply Company, 708 South Fifth Street, Champaign, Illinois.

Necrology

Lillian Landauer Anderson died of cancer on October 17. 1958. She was graduated from Brooklyn College in 1952, after which she worked under an Elk's Foundation Scholarship at the May T. Morrison Center in San Francisco for one year. Upon completing this scholarship, Mrs. Anderson took over the responsibility of the Elk's Mobile Speech and Hearing Project in Humboldt County, California. Her pioneering efforts and devotion to her work in this area will long be remembered and appreciated. Mrs. Anderson pursued some graduate studies at San Francisco State College and San Jose State College. She further extended her knowledge by traveling abroad and making a special study of the speech therapy program in France, during which time she contributed her services at L'Hospital des Enfants-Assistes-St. Vincent de Paul in Paris. The results of her investigation were reported in the Clinical Notes section of the May 1958 issue of the *Journal of Speech and Hearing Disorders*. Mrs. Anderson had Provisional Basic Certification in Speech. She willed her body to the Bellevue Hospital for cancer research and her eyes to the Eye Bank. At the time of her death she was living with her mother, Mrs. Ellen Landauer at 1581 West 7th Street, Brooklyn 4, New York.

Ida Levinson, Professor of Speech, University of Illinois Speech Clinic, Urbana, Illinois, died December 5, 1958, of a heart attack. Miss Levinson, who had been on the staff of the Speech Clinic for 12 years, was well-known as a child expert and was in charge of language development for the pre-school child, and of therapy for cleft palate children.

Donald Arthur Schultz, Ph.D., psychologist and speech therapist, died of a heart attack June 16, 1958, at his residence in Coral Gables, Florida. He was 48. Active in the Southeast Florida Psychological Association, Dr. Schultz was chief of the Speech and Hearing Clinic for United Cerebral Palsy and was editor of a new journal which the Florida Speech and Hearing Disorders Association was preparing to publish.

CLINICAL CERTIFICATION

CLINICAL CERTIFICATION DATES

Three certification dates are now being used: November 1, March 1 and July 1. The applicant should take into consideration that after the Chairman's Office has the application in complete form and ready to send to the Committee for final evaluation it may take from four to six weeks to accomplish this. Although the certification date may be November 1, March 1, or July 1, this does not mean that the applicant will receive word immediately, because some time elapses before the certificate can be made and mailed to the candidate. Because the certification process requires time, the candidate is urged to make application early enough to allow the time needed for processing before any specified certification date. If the application is not complete when sent to the Chairman's Office, considerable correspondence may be necessary before the application is ready for final evaluation.

REPORTING OF EXPERIENCE

According to Council action taken at the 1958 Convention of ASHA in New York City, pre-registration of paid professional experience will not be required.

According to the requirements for certification, each year of paid professional experience beyond the academic requirements for the basic certificate must be reported at the end of the year of experience. The applicant must secure a sponsor with the advanced certificate in speech and/or hearing (according to the area or areas in which he is applying) who will certify at the end of the year on a Sponsor's Report form that the experience has been completed satisfactorily.

Applicants for provisional basic certification in speech or hearing may file application for certification at the beginning of the year of experience and should submit the Sponsor's Report at the close of the year of experience, as in the past.

PHONETICS REQUIRED

All applicants filing applications after January 1, 1960, will be required to submit phonetics as a required course in the Basic Area. Such a course should be concerned with phonetic science and not with personal speech improvement. This requirement does not apply to grandfather (course work completed prior to June 15, 1952) applications.

—Ruth B. Irwin, *Chairman*
Committee on Clinical Certification

CERTIFICATION GRANTED SINCE ISSUE OF 1958 ASHA DIRECTORY

The following alphabetical list gives the names and mailing addresses of persons who have been granted certification since the issuance of the 1958 ASHA Directory. Clinical certification is indicated as follows: BS-Prov., Provisional Basic, Speech; BH-Prov., Provisional Basic, Hearing; BS, Basic, Speech; BH, Basic, Hearing; AS, Advanced, Speech; AH, Advanced, Hearing; Spon. Sp., Sponsor Privilege, Speech; Spon. Hrg., Sponsor Privilege, Hearing.

ABER, WILLIAM, 1589 Ocean Ave., Brooklyn, N.Y. BH Spon. Hrg.
AKIYAMA, WALLACE Y., Sp. Clin., Child. Hosp., Denver, Colo. BS
ALDERDICE, KATHERINE WOOLFITT, 10402 Shaker Blvd., Cleveland 4, Ohio BS
ANDERSEN, MARY ANN, Westchester Ct. 13-7, Nashville, Tenn. BS
ARONSON, ARNOLD E., Sp. Clin., Bascom Hall, Univ. of Wis., Madison, Wis. BS
AUFRICHT, HEDDA, Ill. Ass. for the Crip., Inc., 116 S. Michigan Ave., Chicago 26, Ill. AS

BARKER, BEVERLY J., 2452 Ida, Wichita, Kan. BS
BARRETT, LYMAN S., Audiol. and Sp. Cor. Clin., VA Hosp., San Francisco, Calif. AS BH
BARROW, MINNIE SUE, 425½ S. 6th St., Las Vegas, Nev. BS
BECKER, E. RHEDA, Sp. Clin., Univ. of Md., College Park, Md. BS-Prov.
BECKER, ROSALIE, 2100 Nabors Lane, Odessa, Texas BS
BECKMANN, DOROTHY A., 79-38 77th Ave., Glendale 27, N.Y. BS
BEESON, JOAN, 1510 N. Grant St., W. Lafayette, Ind. BS
BELL, ELIZABETH SARAH, Sp. Clin., Ohio St. Univ., Columbus 10, Ohio BS
BENSON, FRANCIS A. M., Mont. Cen. for Cer. Palsy and Hand. Child., 1500 N. 30th St., Billings, Mont. BS
BENSON, HAZEL B., Mont. Cen. for Cer. Palsy and Hand. Child., 1500 N. 30th St., Billings, Mont.
BERNERO, RAYMOND J., Dept. Audiol., Gallaudet Coll., Washington 2, D. C. BH
BERRY, RUTH ESTHER, Anderson Pub. Sch., 528 W. 11th St., Anderson, Ind. BS
BIEL, CLAIRE D., Sp. and Hearing Ther., 1749 Lee Rd., Cleveland Heights 18, Ohio BS BH-Prov.
BIRKENRUTH, HONORE H., 198 A Glenbrook Rd., Stamford, Conn. BS
BLAKELEY, ROBERT WILLIAM, Sp. Clin., Univ. of Mich., 1007 E. Huron, Ann Arbor, Mich. BH
BLODGETT, KAY M., 334 W. Nittany Ave., State College, Pa. BS
BLOOM, JACK, Queens Sp. and Hear. Cen., Queens Coll., Flushing 67, N. Y. AS
BLUM, ARTHUR M., Sp. Clin., Univ. of Pittsburgh, Pittsburgh 13, Pa. BS Spon. Sp.
BLUMBERG, INA S., 810 Pelham Parkway S., Apt. SA, Bronx 62, N.Y. BS
BORGHI, EUGENE C., LaVerne Coll., LaVerne, Calif. BS-Prov.
BORRIELLO, JOHN F., Sp. and Hear. Cen., Temple Univ., Philadelphia, Pa. BS-Prov.
BOWMAN, ELAINE B., 2111 N.E. Weidler, Portland, Ore. BS-Prov.
BUCHANAN, SISTER DOROTHEA MARIE, Fontboone Coll., Wydown and Big Bend Blvds., University City 14, Mo. BS-Prov.
BURNS, RUTH M., 4000 W. Capital Dr., Milwaukee 16, Wis. BS
BUSSE, PAULINE JOAN, 714 University Dr., Saskatoon, Sask., Can. BS
BUTLER, STAHL, 408 Hollister Bldg., Lansing 8, Mich. AH

CAMPANELLI, PETER A., Dept. of Pub. Hlth, Washington 1, D. C. BS BH
CAPPS, SHIRLEY L., 4 Garman Ct., Park Forest, Ill. BS-Prov.
CARLSON, EUGENE T., May T. Morrison Cen. for Rehab., 1680 Mission St., San Francisco 3, Calif. BS

CARNELL, C. MITCHELL, JR., 3 Furman Faculty Apts., Greenville, S. C. BS-Prov.
CARPENTER, M. ELIZABETH, Calif. Rehab. Cen., 1 Pico Blvd., Santa Monica, Calif. BS Spon. Sp.
CARTA FALSA, JOHN, Dept. Sp., P.O. Box 1965, Univ. of Ala., University, Ala. BS
CARVER, WILLIAM F., Sp. and Hear. Clin., 3518 University Ave., Los Angeles 7, Calif. BS-Prov.
CAUSEY, DONALD G., Acoust. Res., Audiol. Unit, VA, Veterans Benefits Off., Munitions Bldg., Washington 25, D. C. Spon. Hrg.
CHRISTENSON, CONNIE RAE, 933 Third Ave., N. W., Jamestown, N. Dak. BS
CIPAR, ROBERTA CRAMER, 229½ First St., N. W., Barberton, Ohio BS
COHEN, FREDERICK, 130 W. Kingsbridge Rd., Box 68, New York, N.Y. AS
COLTHARP, ALLEN GLENN, JR., 4519 S. 10th St., Tacoma, Wash. BS
COOPE, BEVERLY V., 56 Bennett Ave., Binghamton, N.Y. BS-Prov. BH-Prov.
COPENHAVER, LOIS, 4803 Wellington Dr., Chevy Chase, Md. BS
COUNTS, ALFRED B., 1810 N. Broadway, Santa Ana, Calif. BS
CROSS, DONALD P., c/o Donald L. Hyndman, R.R., Hamilton, Ill. BS-Prov.
CRUTCHFIELD, VERNA M., 803 N. Smith, Breckenridge, Texas BS
CYPREANSEN, LUCILE, Sp. and Hear. Lab., Univ. of Nebr., 102 Temple Bldg., Lincoln 8, Nebr. AS

D'ASARO, MICHAEL J., Sp. Dept., Univ. of Calif., Los Angeles 24, Calif. AS
DEBOLE, S. MARIO, Hear. and Sp. Cen. of Rochester, 501 Main St., W., Rochester, N.Y. BH-Prov.
DENNIS, BETTY CROGHAN, 1021 S. Peale Ave., Park Ridge, Ill. BS
DE ROUEN, ANN LOUIS, W. Tenn. Hear. and Sp., Madison Co. Off. Bldg., Chester and Liberty Sts., Jackson, Tenn. BS
DIXON, RICHARD F., San Francisco Hear. and Sp. Cen., 1609 Scott St., San Francisco 15, Calif. AH
DOMINGUEZ, OLGA, 147 Croesus Ave., San Antonio 1, Texas AS
DOWNS, MARION P., Hear. Clin., Univ. of Denver, Univ. Pk., Denver 10, Colo. AH
DRIPPS, ELAINE R., Youngstown Bd. of Ed., 20 W. Wood St., Youngstown, Ohio AS
DUBARD, NETTIE ETOILE, Carpenter II Sch., Washington St., Natchez, Miss. BS-Prov.

EBERLINE, LINDA JEAN HILL, R. R. 1, Box 202, Waynesville, Mo. BS-Prov.
ECHOLS, NANCIE CAROL, Flora, Miss. BS
EDMONSTON, WILLIAM J., Bertha Heid Sch., Thornton, Colo. BS-Prov.
EGLEY, DONNA PAROBECK, 22-7 Ross-Ade Dr., W. Lafayette, Ind. BS
EVANS, JANET, 2231 Madison, Memphis 4, Tenn. BS

FABRIZIUS, LORENE M., 2400 Jardine Dr., Wichita 14, Kan. BS-Prov.
FARMER, MARGARET L., 515 Maple Ave., Danville, Ky. BS
FENTON, ANN K., Off. of Supt., Court House, Kittanning, Pa. BS-Prov.
FENTON, COLETTE M., Lincoln Park Bd. of Ed., Lincoln Park, Mich. BS-Prov.
FEUERMAN, HELENE EVELYN, 111 N. Second St., Easton, Pa. BS
FILLEY, FLORENCE A., Sp. Clin., Ohio St. Univ., Columbus 10, Ohio BS BH
FLETCHER, SAMUEL G., Dept. Pediat., Salt Lake Co. Hosp., 1940 S. Second East, Salt Lake City 15, Utah BS
FORESTER, ELLEN L., 31 Laurel Ave., DuQuoin, Ill. AS
FOSTER, HONORA B., Waltham Sch. Dept., 55 School St., Waltham, Mass. AS AH
FRANKEL, LOIS, Nutley Pub. Sch., Spec. Serv., Nutley 10, N.J. BS-Prov.
FRISINA, D. ROBERT, Hear. and Sp. Cen., Gallaudet Coll., Washington 2, D. C. Eligible for AH Exam.
FROHMAN, EVELYN, Box 325, Waverly, Va. BS
FUEGLEIN, MARY ANNE, 1864 Alfresco Pl., Louisville, Ky. BS

GALBRAITH, PEGGY H., I. W. Popham Sch., Del Valle, Texas BS-Prov.
GARBEE, FREDERICK E., Sp. and Hear. Clin., Univ. of N. Dak., Grand Forks, N. Dak. BS Spon. Sp.
GAYLIN, RITA A., 1223 E. 53rd St., Chicago 15, Ill. BS-Prov. BH-Prov.
GERNON, ELLEN A., 735 Windsor Rd., Rockford, Ill. AS
GETLIN, JULES P., Crip. Child. Soc. of Los Angeles Co., Inc., 325 W. Adams Blvd., Los Angeles 7, Calif. BS

GOLDSTEIN, ROBERT, Jewish Hosp. of St. Louis, 216 S. Kingshighway, St. Louis 10, Mo. AH
GRAHAM, CARROLL B., Instit. of Logoped., 2400 Jardine Dr., Wichita 14, Kan. BS-Prov. BH-Prov.
GRASHORN, SANDRA JANE, 294 Westlawn Dr., Univ. of Iowa, Iowa City, Iowa BS
GRECO, ROSE M., 42 Garner Ave., Buffalo, N. Y. BS
GREENE, NANCY J., 936 S. Wise St., N. Canton, Ohio BS
GREY, HOWARD A., English Dept., Univ. of Calif., Los Angeles 24, Calif. BS-Prov.
GRIER, VIRGINIA, Katona, Iowa BS
GRIFFITH, JERRY, Freeman Mobile Home Pk., Urbana, Ill. BS
GRUBER, LESLIE, 15 Dreier Blvd., Evansville, Ind. BS-Prov.

HAAG, JOAN IRENE, 1954 Columbia Rd., N.W., Washington 9, D. C. BS
HACKWORTH, HOWARD B., 1431 S. Richmond, Tulsa, Okla. BS
HAGEMAN, MARILYN J., 270 S. Chestnut St., Ravenna, Ohio BS-Prov.
HALL, WILLIAM F., 328 Switzler Hall, Univ. of Mo., Columbia, Mo. BS-Prov.
HALPER, MIRIAM, Sp. and Hear. Cen., Queens Coll., Flushing, N. Y. BS-Prov.
HANSON, ESTHER JANE, 931 E. Gum St., Evansville 13, Ind. BS
HARRISON, BARBARA F., 2558 Webster St., Palo Alto, Calif. BS
HAST, MALCOLM H., Sp. Clin., 300 Derby Hall, Ohio St. Univ., Columbus 10, Ohio BH-Prov.
HELLMAN, RHONA P., Gordon D. Hoople Hear. and Sp. Cen., S. Crouse Ave., Syracuse, N.Y. BS-Prov. BH-Prov.
HILL, HELEN I., 344 Commonwealth Ave., Boston, Mass. BS
HITCH, JEANETTE C., 3960 Forrest Ave., Memphis 17, Tenn. BS-Prov. BH-Prov.
HOLLIEN, HARRY F., Instit. of Logoped., 2400 Jardine Dr., Wichita 14, Kan. BS
HOLLOWAY, SUZANNA KINSEY, 5626 Selby Ct., Worthington, Ohio BS
HUNT, E. ALEEN, Bldg. 413, Univ. of Utah, Salt Lake City, Utah AS AH
HUTTON, CHARLES L., JR., Univ. Hear. Cen., Univ. of Ill., Urbana, Ill. AS

JAFFE, ROBERT R., 19849 Maplewood, Livonia, Mich. BS
JEFFREYS, HANNA PETRUSHANSKY, 7620 Maple Ave., Takoma Park, Md. BS
JENNEY, MARGARET E., U.C.P. of Montgomery Co. Inc., P.O. Box 187, Silver Springs, Md. BS-Prov.
JOHNSON, HAZALL D., 1130 N. Main, Williston, N. Dak. BS-Prov.
JONES, FRANCES E., 215½ Eighth St., Jonesboro, La. BS-Prov.
JONES, LOYDELL, Child. Hosp., 13th and W. Streets, N.W., Washington, D. C. BS-Prov.
JONES, M. CAROLYN, 1967 Glendale Ave., Baton Rouge, La. BS
JONES, SYLVIA WEAVER, 2116 Belvedere Blvd., Apt. 4, Silver Springs, Md. BS
JOQUES, SISTER MARY, OP, 845 N. Van Buren St., Milwaukee 2, Wis. BS
JORDAN, HERBERT W., Gordon D. Hoople Hear. and Sp. Cen., 805 S. Crouse Ave., Syracuse 10, N.Y. BS BH Spon. Sp. Spon. Hrg.

KANE, ELLEN, 440 W. End Ave., New York 74, N.Y. BS
KAPLAN, HARRIET F., Acous. Res. Audiol. Unit, VA, Munitions Bldg., Washington, D. C. BH
KATZ, FRANCINE HOKIN, 3947 N. Harlan Ave., Baldwin Park, Calif. BS
KATZ, JACK, 333 Burrows St., Apt. 954, Pittsburgh 13, Pa. BS
KATZ, JOAN, 1218 S. Allen St., State College, Pa. BS
KEENAN, JOSEPH S., Sp. Dept., Univ. of Fla., Gainesville, Fla. BS-Prov.
KEITH, ROBERT L., Co. Supt. Office, Finley, N. Dak. BS-Prov.
KENT, SONDRA M., 250 S. Salisbury St., W. Lafayette, Ind. BS-Prov.
KIBLER, LUCY M., 4418 4th Rd. N., Arlington 3, Va. BS
KLINGLER, JANICE L., Sp. and Hear. Serv., St. Luke's Hosp., Chicago, Ill. BS-Prov.
KRAMER, JUDITH ANN, Therapeutic Nursery, Mandel Clin. Michael Reese Hosp., 29th and Ellis Ave., Chicago 16, Ill. BS
KUBES, BENJAMIN F., 115 First St., S.W., New Prague, Minn. BS

LA BORWIT, LOUIS J., 212 Pine Spring Rd., Falls Church, Va. BS
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President's Message

The writing of this message is my first official action as President of the American Speech and Hearing Association. My thoughts are addressed to all members of our Association because I wish to express to each of you my deep feeling of appreciation for the Honors bestowed upon me and for the privilege and opportunity of serving you for so many years. Because your interests have been my interests for so long I sincerely feel that both the Honors and the Presidency must be shared with you. With this thought in mind I wish to resolve the ASHA membership into a Committee of the Whole to participate in the most important task facing the ASHA in 1959, recruitment of new members. We need to double our membership to avoid a second year of deficit financing. Last year our expenses exceeded our income by $13,500 despite a very substantial government grant and continued subsidies by certain universities of offices and clerical help. The two big items of additional expenditure were our new National office and our second *Journal*. As an association we approved both of these by an overwhelming majority mail ballot. Our principal source of income is from dues. If you look at the 1959 budget, you will understand why our dues had to be raised this year and you will see that we are depending again upon another substantial grant from the government. Eventually we will be compelled either to decrease our expenses or to increase our income. It is essential, if the goals which the Association has projected are to be realized without additional increase in dues, that 'Every Member Get a Member.' You will receive application for membership cards from the Executive Secretary, Chairman of the Membership Committee.

The amount of time and effort you will have to spend on recruiting an ASHA member will be extremely small when compared with the countless hours, days and weeks that are voluntarily given to the work of our Association by chairmen and members of committees, our Editors, officers and Councilors. As you may know, I have been a member of the Executive Council since 1946 and have worn too many different committee 'hats' for too many years. During this period the increases in membership, budget, dues, publications and committees are a matter of record of our growth to professional maturity.

In 1946 we had only a few hundred members. The Executive Council scheduled its meetings during the early evenings of the convention and was able to complete its work. Last November your Executive Council met for three days and nights preceding the opening of the convention and, because of the volume of business, special meetings were called during three days and two nights during the convention. We worked approximately 60 hours, or the equivalent of seven and one-half eight-hour days, on Association business, immediately before and during our last convention. Practically all of the time was devoted to considering committee reports. About 30 committees composed of ASHA members studied and reported on activities, services and aspects of

our professional interest. No one could compute the total number of man hours that were spent in preparation of all these committee reports. I stress these time-labor facts to impress you with your comparatively light assignment of recruiting a new member for ASHA. Also, I want you to realize that nearly all of the work of the ASHA is conducted through committees composed of ASHA members. Problems assigned to committees arise in direct communication from the membership to the Executive Council. The Executive Council is kept so busy considering committee reports that it has no time to originate, 'dream or cook up' surprises to spring on an uninformed membership. Even though Council sessions are open, few members have ever attended a Council meeting. I often wonder how many of you take the time to read the minutes of the Council and Business Meetings. Most new business presented for membership approval or information at our convention business meetings, and then presented to the membership for vote by mail ballot, is the product not of a single year's Council meetings but of several years of Council discussion of specific committee reports. Can you recall one business meeting in which a member moved a vote of thanks to Council, Committees or Editors for their many days of voluntary effort in behalf of our Association?

Finally, I wish to add one more plea for your considered, cooperative and concerted action. Years of work and thought of many members working on many committees, culminated last November in approval by the Executive Council of Group Insurance, of a House of State Delegates of the ASHA and of a Corporation to manage for the ASHA the problems of a permanent Registry of Training Institutions, Clinical Standards for Services in Speech Pathology, Clinical Standards for Services in Audiology and the establishment of a Diplomate level of certification of professional competence. Circulation of our membership for Group Insurance started at the convention and is continuing at the present time. We owe it to ourselves to subscribe in sufficient numbers to make Group Insurance a reality for our members. The House of State Delegates will become a reality when 12 states have met the requirements. This is the beginning of the answer to the long-standing request of our membership for more active participation in the work of our Association. I hope that the goal of every state Speech and Hearing Association will be to qualify for membership in the House of State Delegates during 1959, so that the first meeting may be held in Cleveland during our next convention. You will be asked to vote, following receipt of explanatory materials from the Executive Secretary's office on the establishment of a corporation with Boards empowered to develop a National Registry of Training Institutions, Standards for Services in Speech Pathology and Audiology and a Diplomate level of certification. The Executive Council has considered these problems in various forms for many years. This year a workable plan was formulated for extending our present framework of certification to meet the needs of our inter-professional relationships with other associations and agencies without degrading the levels of certification presently held by our membership. This plan also would enable us to evolve and codify standards for clinical services as we must if we are to meet completely the urgent professional needs of our member-

ship. Development of a permanent Registry of Training Institutions eventually should make individual certification automatic upon completion of the curriculum at an approved institution. The total plan was approved for submission to the membership by mail ballot. I recommend it to you for careful consideration and very thoughtful vote.

We are depending upon you to make 1959 the year in which every member participates in the work of the ASHA.

—GEORGE A. KOPP